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SEGA SONIC & ALL-STARS RACING ARCADE OWNER'S MANUAL

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CONNECTING THE COMMUNICATION CABLE
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Other ManualsLib Projects

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SEGA®

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SONIC AND SEGA ALL-STARS RACING ARCADE

OWNER'S MANUAL

420-0012UK

SEGA®

SONIC & SEGA ALL-STARS RACING ARCADE™

OWNER'S MANUAL

ANNIVERSARY 20th SONIC THE HEDGEHOG

IMPORTANT

- Before using this product, read this manual carefully to understand the contents herein stated.
- After reading this manual, be sure to keep it near the product or in a convenient place for easy reference when necessary.

BEFORE USING THE PRODUCT, BE SURE TO READ THE FOLLOWING:

To maintain safety:

To ensure the safe operation of this product, be sure to read the following before usage.
The following instructions are intended for the users, operators and the personnel in charge of the operation of the product. After carefully reading and sufficiently understanding the warning displays and cautions, handle the product appropriately. Be sure to keep this manual close to the product or in a convenient place for future reference.

Herein, explanations which require special attention are enclosed with dual lines. Depending on the potentially hazardous degrees, the terms of DANGER, WARNING, CAUTION, etc. are used. Be sure to understand the contents of the displays before reading the text.

⚠ DANGER Indicates that mishandling the product by disregarding this pictograph will cause severe injury or death.

⚠ WARNING Indicates that mishandling the product by disregarding this warning will cause a potentially hazardous situation which can result in death or serious injury.

⚠ CAUTION Indicates that mishandling the product by disregarding this caution will cause a slight hazardous situation which can result in personal injury and/or material damage.

For the safe usage of the product, the following pictographs are used:

Indicates "HANDLE WITH CARE." In order to protect the human body and equipment, this display is attached to places where the instruction manual should be referred to.

Indicates a "protective earth terminal." Before operating the equipment, be sure to connect it to the ground.
(The step may be omitted for products in which a power cable with earth is used.)

- **Perform work in accordance with the instructions herein stated.**
  Instructions for work are explained by paying attention to the aspect of accident prevention. Failing to perform work as per the instructions can cause accidents. In the case where only those who have technical expertise should perform the work to avoid hazardous situation, the instructions herein state that the site maintenance personnel should perform such work.
- **Be sure to turn off the power before working on the machine.**
  To prevent an electric shock, be sure to turn off the power and unplug the power cable before carrying out any work that requires direct contact with the interior of the product. If the work is to be performed in the power-on status, the instruction manual herein always states to that effect.
- **Be sure to ground the earth terminal.**
  (This is not required in the case where a power cable with earth is used.)
  This product is equipped with the earth terminal. When installing the product, connect the earth terminal to the "accurately grounded indoor earth terminal" by using an earth wire. Unless the product is grounded appropriately, the user can be subject to an electric shock. After performing repair, etc. for the control equipment, ensure that the earth wire is firmly connected to the control equipment.
- **Ensure that the power supply used is equipped with an earth leakage breaker.**
  Using a power supply which is not equipped with the earth leakage breaker can cause a fire when earth leakage occurs.
- **Be sure to use fuses which meet the specified rating.**
  (Only for the machines which use fuses.)
  Using fuses exceeding the specified rating can cause a fire and an electric shock.

- **Specification changes (removal of equipment, conversion and addition) not designated by SEGA are not allowed.**
  The parts of the product include warning labels for safety, covers for personal protection, etc. It is very hazardous to operate the product by removing parts and/or modifying the circuits. Should doors, lids and protective parts be damaged or lost, refrain from operating the product, and contact where the product was purchased from or the office herein stated.
  SEGA shall not be held responsible for any accidents, compensation for damage to a third party, resulting from the specifications not designated by SEGA.
- **Ensure that the product meets the requirements of appropriate electrical specifications.**
  Before installing the product, check for electrical specifications. SEGA products have a nameplate on which electrical specifications are described. Ensure that the product is compatible with the power supply voltage and frequency requirements of the location. Using any electrical specifications different from the designated specifications can cause a fire and an electric shock.
- **Install and operate the product in places where appropriate lighting is available, allowing warning labels to be clearly read.**
  To ensure safety for the customers, labels and printed instructions describing potentially hazardous situations are applied to places where accidents can be caused. Ensure that where the product is operated has sufficient lighting allowing the warnings to be read. If any label is peeled off, apply it again immediately. Please place an order with where the product was purchased from or the office herein stated.
- **When handling the monitor, be very careful.**
  (Applies only to products with monitors.)
  Some of the monitor parts are subject to high tension voltage. Even after turning off the power, some portions are still subject to high tension voltage sometimes. Monitor repair and replacement should be performed only by those technical personnel who have knowledge of electricity and technical expertise.
- **Be sure to adjust the monitor properly.**
  (Applies only to products with monitors.)
  Do not operate the product leaving on-screen flickering or blurring as it is. Using the product with the monitor not properly adjusted may cause dizziness or a headache to an operator, a player, or the customers.
- **When transporting or reselling this product, be sure to attach this manual to the product.**

* *In the case where commercially available monitors and printers are used in this product, only the contents relating to this product are explained herein. Some commercially available equipment has functions and reactions not stated in this manual. Read this manual together with the specific instruction manual of such equipment.*
* *Descriptions herein contained may be subject to improvement changes without notice.*
* *The contents described herein are fully prepared with due care. However, should any question arise or errors be found, please contact SEGA.*

INSPECTIONS IMMEDIATELY AFTER TRANSPORTING THE PRODUCT TO THE LOCATION

Normally, at the time of shipment, SEGA products are in a status allowing for usage immediately after transporting to the location. Nevertheless, an irregular situation may occur during transportation. Before turning on the power, check the following points to ensure that the product has been transported in a satisfactory status.

☐ Are there any dented portions or defects (cuts, etc.) on the external surfaces of the cabinet?
☐ Are casters and adjusters damaged?
☐ Do the power supply voltage and frequency requirements meet with those of the location?
☐ Are all wiring connectors correctly and securely connected? Unless connected in the correct way, connector connections can not be made accurately. Do not insert connectors forcibly.
☐ Do power cables have cuts and dents?
☐ Are all accessories available?
☐ Can all doors and lids be opened with the accessory keys? Can doors and lids be firmly closed?

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INTRODUCTION

This manual is intended to provide detailed descriptions together with all necessary information covering the general operation of electronic assemblies, electro-mechanicals, servicing control, spare parts, etc. for the product, "SONIC and SEGA ALL-STARS RACING"

This manual is intended for the owners, personnel managers in charge of operation of this product.
Operate the product after carefully reading and sufficiently understanding the instructions.

In the unlikely event that the product does not function correctly, DO NOT allow anyone other than a technician to touch the internal system. Turn off the power to the machine, making sure to unplug the electrical cord from the outlet, and contact the office listed below or the point-of-purchase for this product.

Use of this product is unlikely to cause physical injuries or damage to property. However, points that require special attention are indicated by bold text, the word “IMPORTANT” and the symbol below.

STOP IMPORTANT

Indicates important information that, if ignored, may result in the mishandling of the product and cause faulty operation or damage to the product.

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SPECIFICATIONS

Standard Cabinet

Machine Dimensions:	1,11m (43.7in.) [Width] x 1.70m (66.9in.) [Depth]
Machine Height:	2.2m (86.6in.) (Installed)
Machine Weight:	220kg Approx (Installed)
Power, maximum current:	2A (480w) @ 220~240Vac

Definition of 'Site Maintenence Personnel or Other Qualified Individuals

IMPORTANT

Procedures not described in this manual or marked as 'to be carried out by site maintenance personnel or other qualified professionals' should not be carried out by personnel without the necessary skill or technology. Work carried out by unqualified persons may cause serious accidents, including electrocution.

Parts replacement, maintenance inspections and troubleshooting should be carried out by site maintenance personnel or other qualified professionals. This manual includes directions for potentially dangerous procedures which should only be carried out by professionals with the appropriate specialised knowledge.

The site maintenance personnel or other qualified professionals mentioned in this manual are defined as follows:

Site maintenance personnel:
Individuals with experience in maintaining amusement equipment, vending machines, etc., working under the supervision of the owner/operator of this product to maintain machines within amusement facilities or similar premises by carrying out everyday procedures such as assembly, maintenance inspections, and replacement of units/ expendable parts.

Activities to be carried out by site maintenance personnel:
Amusement equipment/vending machine assembly, maintenance inspection and replacement of units/expendable parts.

Other qualified professionals:
Persons employed by amusement equipment manufacturers, or involved in design, production, testing or maintenance of amusement equipment. The individual should have either graduated from technical school or hold similar qualifications in electrical/electronics/mechanical engineering.

Activities to be carried out by other qualified professionals:
Amusement equipment/vending machine assembly, repair/adjustment of electrical/electronic/mechanical parts.

Waste of Electrical and Electronic Equipment (WEEE) Statement.

The WEEE (Waste of Electrical and Electronic Equipment) directive places an obligation on all EU based manufacturers and importers of Electrical and Electronic Equipment to take back products at the end of their useful life. Sega Amusements Europe Ltd accepts its responsibility to finance the cost of treatment and recovery of redundant WEEE in the United Kingdom in accordance with the specified WEEE recycling requirements.

The symbol shown below will be on all products manufactured from 13th August 2005, which indicates this product must NOT be disposed of with other normal waste. Instead, it is the user's responsibility to dispose of their waste equipment by arranging to return it to a designated UK collection point for the correct recycling of waste electrical and electronic equipment.

For more information about where you can send your waste equipment for recycling contact your local authority office.

For non-UK users contact your local authority office for information on the recycling of Waste Electrical and Electronic Equipment.

Battery Recycling Statement.

The EC Directive on Batteries and Accumulators (2006/66/EC) aims to minimise the impact of batteries on the environment and encourage the recovery of the materials they contain. To achieve increased collection and recycling of waste batteries, the Directive places 'producer responsibility' obligations on manufacturers and importers of portable, industrial and automotive batteries.

The symbol shown below will be on all equipment fitted with batteries from 26th September 2008 and indicates they must NOT be disposed of with other normal waste. Instead, it is the user's responsibility to dispose of used batteries by arranging to return them to a designated collection point for the correct recycling.

For more information about where you can send your waste batteries for recycling contact your local authority office.

REGISTERED IN ENGLAND REGISTERED NO. 1711515

REGISTERED OFFICE: BLOCK C 42 BARWELL BUSINESS PARK, CHESSINGTON, SURREY KT9 2NY

Notes:

Intentionally left blank

1 HANDLING PRECAUTIONS

When installing or inspecting the machine, be very careful of the following points and pay attention to ensure that the player can enjoy the game safely.
Non-compliance with the following points or inappropriate handling running counter to the cautionary matters herein stated can cause personal injury or damage to the machine.

⚠ WARNING

Before performing work, be sure to turn the power off. Performing the work without turning the power off can cause an electric shock or short circuit. In cases where work should be performed in the status of power on, this manual always states to that effect.

To avoid an electric shock or short circuit, do not plug in or unplug quickly.

To avoid an electric shock, do not plug in or unplug with a wet hand.

Do not expose power cords or earth wires on the surface, (floor, passage, etc.) If exposed, the power cords and earth wires are susceptible to damage. Damaged cords and wires can cause an electric shock or short circuit.

To avoid causing a fire or an electric shock, do not put things on or damage the power cords.

When or after installing the product, do not unnecessarily pull the power cord. If damaged, the power cord can cause a fire or an electric shock.

In case the power cord is damaged, ask for a replacement through where the product was purchased from or the office herein stated. Using the cord as is damaged can cause fire, an electric shock or leakage.

Be sure to perform grounding appropriately. Inappropriate grounding can cause an electric shock.

Be sure to use fuses meeting the specified rating. Using fuses exceeding the specified rating can cause a fire or an electric shock.

Be sure that connections such as IC BD are made properly. Insufficient insertion can cause an electric shock.

Specification changes, removal of equipment, conversion and/or addition, not designated by SEGA are not permitted.

Failure to observe this may cause a fire or an electric shock. Non-compliance with this instruction can have a bad influence upon physical conditions of the players or the onlookers, or result in injury during play.

SEGA shall not be held responsible for damage, compensation for damage to a third party, caused by specification changes not designated by SEGA.

Do not perform any work or change parts not listed in this manual. Doing so may lead to an accident.

If you need to perform any work not listed in this manual, request work from the office indicated in this manual or the point of purchase, or inquires for details.

Be sure to perform periodic maintenance inspections herein stated.

STOP IMPORTANT

For the IC board circuit inspections, only the use of a logic tester is recommended. Using a Multi Tester or General Purpose Tester may result in damage to IC Circuits.

Static electricity from your body may damage some electronics devices on the IC board. Before handling the IC board, touch a grounded metallic surface so that the static electricity can be discharged.

This video gaming cabinet utilises a motorised steering feedback system. Do not attempt to service this part or any other part in close proximity to the steering mechanism whilst power is applied.

Some parts are not designed and manufactured specifically for this game machine. The manufacturers may discontinue, or change the specifications of such general-purpose parts. If this is the case, SEGA cannot repair or replace a failed game machine whether or not a warranty period has expired.

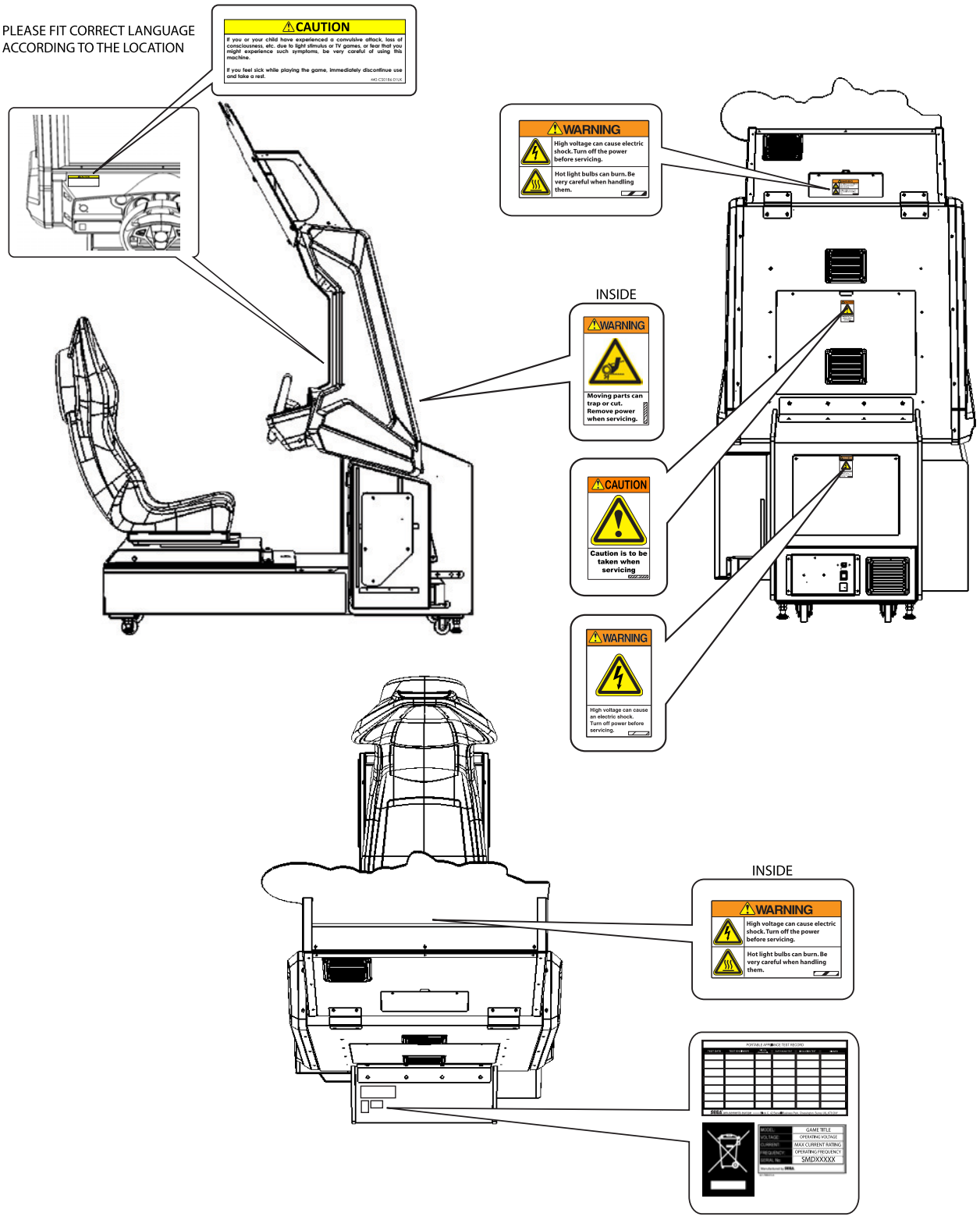
CONCERNING THE STICKER DISPLAY

This SEGA product has stickers attached describing the product manufacture No. (Serial No.) and Electrical Specifications. It also has a Sticker describing where to contact for repair and for purchasing parts.
When inquiring about or asking for repairs, mention the Serial No. and Name of Machine indicated on the Sticker. The Serial Number indicates the product register. Identical machines could have different parts depending on the date of production. Also, improvements and modifications might have been made after the publication of this manual. In order to ensure you order the correct parts, mention the Serial No. when contacting the applicable places.

CONCERNING WARNING DISPLAYS

This SEGA product has warning displays on stickers, labels and/or printed instructions adhered/attached to or incorporated in the places where a potentially hazardous situation could arise. The warning displays are intended for accident prevention for customers and for avoiding hazardous situations relating to maintenance and servicing work. Some portions of the cabinet contain high voltage and may cause accidents if touched. When performing maintenance, be very careful of the warning displays. It is especially important that any complex repair and replacement work not mentioned herein should be performed by those technical personnel who have knowledge of electricity and technical expertise.
In order to prevent accidents, caution any customer ignoring the warnings to cease and desist immediately.

PLEASE FIT CORRECT LANGUAGE
ACCORDING TO THE LOCATION


CAUTION
If you or your child have experienced a convulsive attack, loss of consciousness, etc. due to light stimulus or TV games, or fear that you might experience such symptoms, be very careful of using this machine.
If you feel sick while playing the game, immediately discontinue use and take a rest.
445-C30184-01(A)
WARNING
High voltage can cause electric shock. Turn off the power before servicing.
Hot light bulbs can burn. Be very careful when handling them.
INSIDE
WARNING
Moving parts can trap or cut. Remove power when servicing.
CAUTION
Caution is to be taken when servicing
WARNING
High voltage can cause an electric shock. Turn off power before servicing.
INSIDE
WARNING
High voltage can cause electric shock. Turn off the power before servicing.
Hot light bulbs can burn. Be very careful when handling them.
PORTABLE APPLIANCE TEST RECORD
GAME TITLE
OPERATING VOLTAGE
MAX CURRENT RATING
OPERATING FREQUENCY
SMDXXXX

2 PRECAUTIONS REGARDING INSTALLATION

⚠ WARNING

This product is an indoor game machine. Do not install it outside. Even indoors, avoid installing in places mentioned below so as not to cause a fire, electric shock, injury and/or malfunction.

Places subject to rain or water leakage, or places subject to high humidity in the proximity of an indoor swimming pool and/or shower, etc.

Places subject to direct sunlight, or places subject to high temperatures in the proximity of heating units, etc.

Places filled with inflammable gas or vicinity of highly inflammable/volatile chemicals or hazardous matter.

Dusty places.

Sloped surfaces.

Places subject to any type of violent impact.

Vicinity of anti-disaster facilities such as fire exits and fire extinguishers.

Areas where the temperature exceeds the applicable temperature (ambient temperature) range of 5 to 30 degrees centigrade.

LIMITATIONS OF USAGE

⚠ WARNING

Be sure to check the Electrical Specifications. Ensure that this product is compatible with the location's power supply, voltage, and frequency requirements. A plate describing Electrical Specifications is attached to the product. Non-compliance with the Electrical Specifications can cause a fire and electric shock.

This product requires a breaker and earth mechanism as part of the location facilities. Using the product without these can cause a fire and electric shock.

Ensure that the indoor wiring for the power supply is rated at 15 A or higher (AC single phase 100 V ~ 120 V area), and 7 A or higher (AC 220 V ~ 240 V area). Non-compliance with the Electrical Specifications can cause a fire and electric shock.

Be sure to use an independent power supply equipped with an earth leakage breaker. Using a power supply without an earth leakage breaker can cause an outbreak of fire if a power surge occurs.

Putting many loads on one electrical outlet can cause generation of heat and a fire resulting from overload.

When using an extension cord, ensure that the cord is rated at 15 A or higher (AC 100 V ~ 120 V area) and 7 A or higher (AC 220 V ~ 240 V area). Using a cord rated lower than the specified rating can cause a fire and electric shock.

IMPORTANT

Securing a safe area for operation as described in this manual will ensure safe operation for players and observers.

SEGA shall not be held responsible for damage or compensation for damage to a third party, resulting from the failure to observe this instruction.

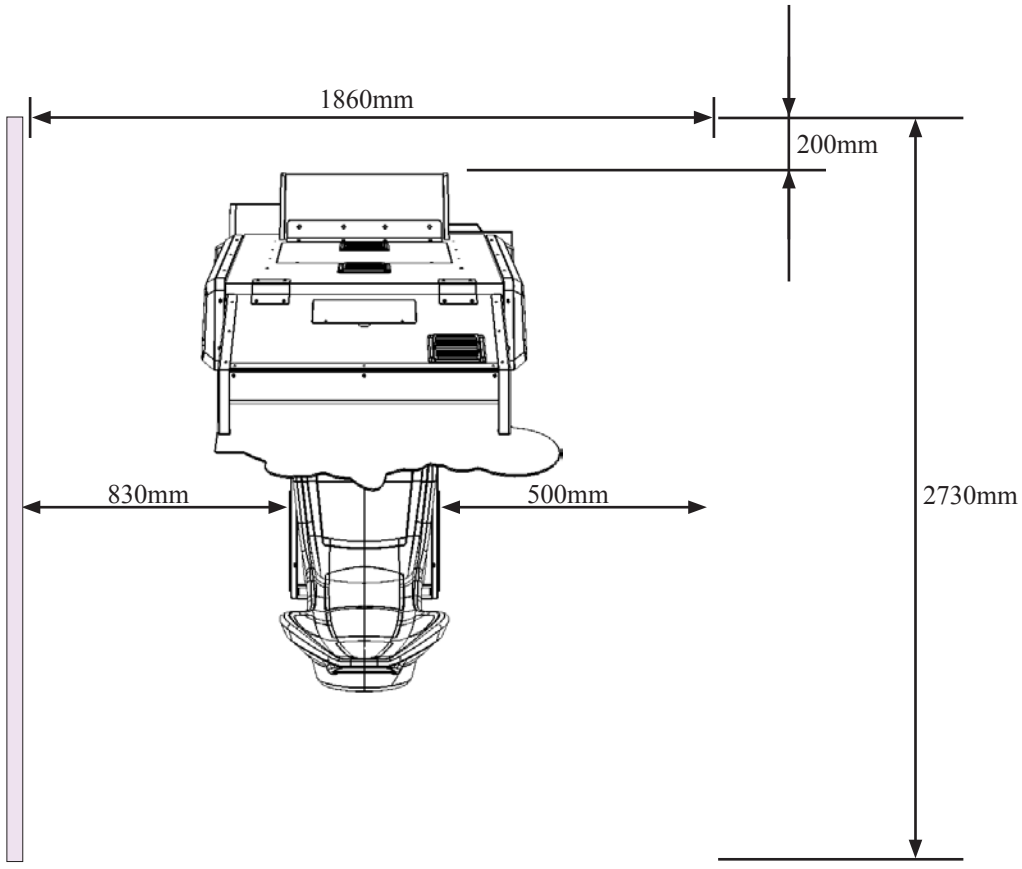
OPERATION AREA (SINGLE CABINET)

WARNING

For the operation of this machine, secure a minimum area of 1.86m (W) x 2.73m (D).

Be sure to provide sufficient space specified in this manual. Do not allow objects to block the ventilation ports. It can cause generation of heat and a fire.

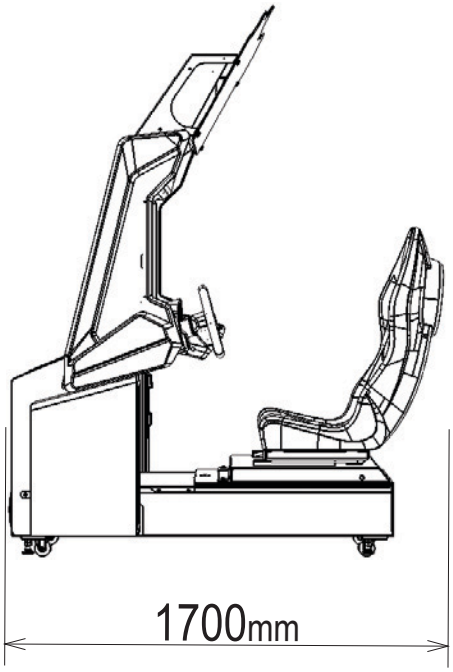
Sufficient space either side of the playing area must be allowed for the player to enter or exit the game safely.

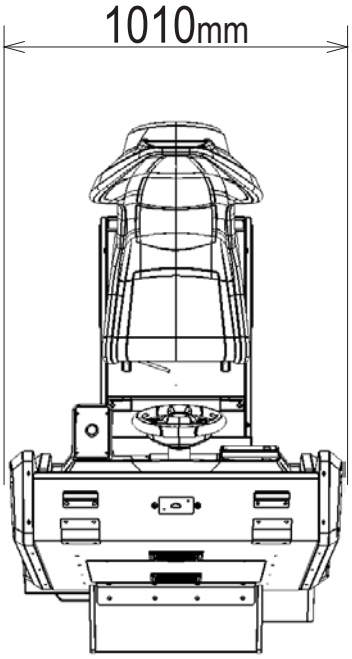


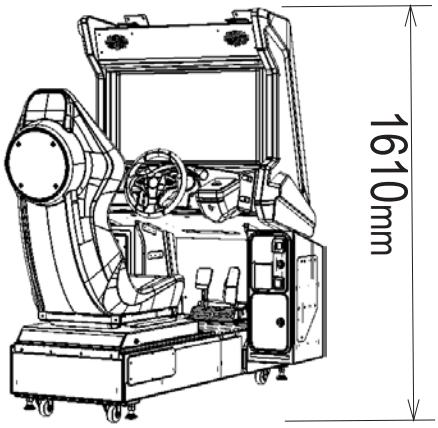
STOP IMPORTANT

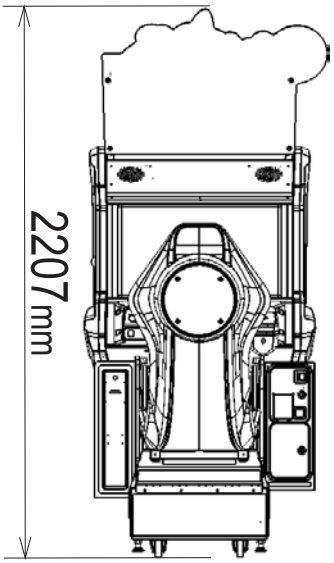
To install this product, the entrance must be at least 1.1m in width and 1.7 m in height (without Assy Billboard) and 2.21m (with Assy Billboard).

Do not attempt to push/pull whilst holding onto the Assy Billboard. This may result in part damage and or personal injury.









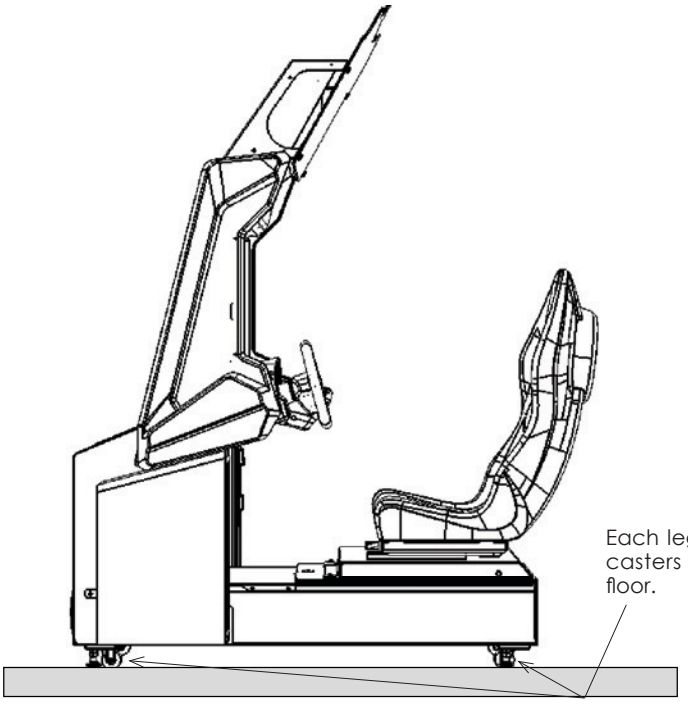
3 PRECAUTIONS REGARDING OPERATION

To avoid injury and trouble, be sure to pay attention to the behavior of visitors and players.

⚠ WARNING

In order to avoid accidents, check the following before starting the operation:

- **To ensure maximum safety for the players and the customers, ensure that where the product is operated has sufficient lighting to allow any warnings to be read. Operation under insufficient lighting can cause bodily contact with each other, hitting accident, and/or trouble between customers.**
- **Be sure to perform appropriate adjustment of the display (LCD, Plasma, CRT or Projector). For operation of this machine, do not leave monitor's flickering or deviation as is. Failure to observe this can have a bad influence upon the players' or the customers' physical conditions.**
- **It is suggested to ensure a space allowing the players who feel sick while playing the game to take a rest.**
- **Check if all of the adjusters are in contact with the surface. If they are not, the Cabinet can move and cause an accident.**



Each leg adjuster MUST be lowered so that the casters are raised approximately 5mm off the floor.

- **Do not put any heavy item on this product. Items, if placed on this product may fall and cause injury to the player / observer.**
- **Do not climb on the product. Climbing on the product can cause falling down accidents. To check the top portion of the product, use a step ladder.**

⚠ WARNING

- To avoid electric shock, ensure that all covers and panels are undamaged and fitted. Do not operate with covers removed.
- To avoid electric shock, short circuit and/or parts damage, do not put the following items on or in the periphery of the product.

  Flower vases, flowerpots, cups, water tanks, cosmetics, and receptacles/containers/vessels containing chemicals and water.

⚠ CAUTION

- To avoid injury, be sure to provide sufficient space by considering the potentially crowded situation at the installation location. Insufficient installation space can cause making bodily contact with each other, hitting accidents, and/or trouble between customers.
- Everyday when cleaning the Controller, inspect the controller and make sure that there are no cracks in the surface, and that the fastening screws are not loose. If the game is played with cracks or loose screws, it can cause injuries to the player.
- Do not allow more than one person in any seat at any time. Do not allow adults to play the game with a child sitting in their lap.

It is recommended that wet towels (paper towels) be provided.

DURING OPERATION (PAYING ATTENTION TO CUSTOMERS)

To avoid injury and trouble, be sure to constantly give careful attention to the behavior and manner of the visitors and players.

⚠ WARNING

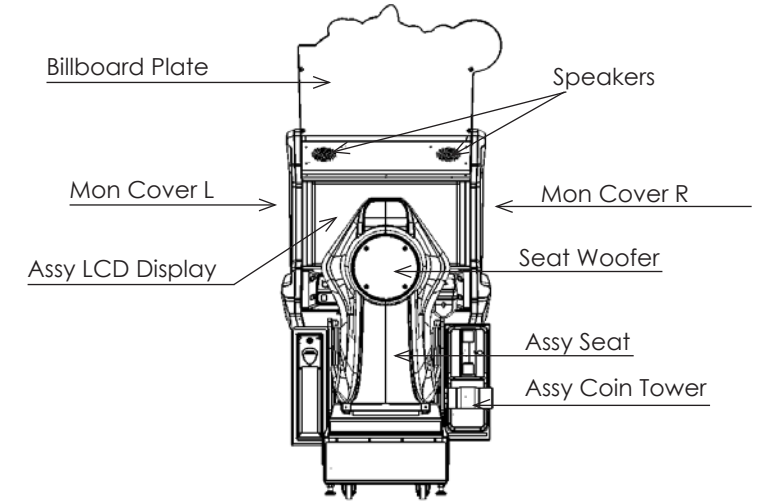
- **For safety reasons, do not allow any of the following people to play the game.**
- **Those who have high blood pressure or a heart problem.**
- **Those who have experienced muscle convulsion or loss of consciousness when playing video games, etc.**
- **Those who have neck or spinal cord problems.**
- **Those who are intoxicated or under the influence of drugs.**
- **Pregnant women.**
- **Those who are not in good health.**
- **Those who do not follow the attendant's instructions.**
- **Those who cannot grasp the Control Unit securely because of immobility in fingers, hands or arms.**
- **Persons who disregard the product's warning displays.**

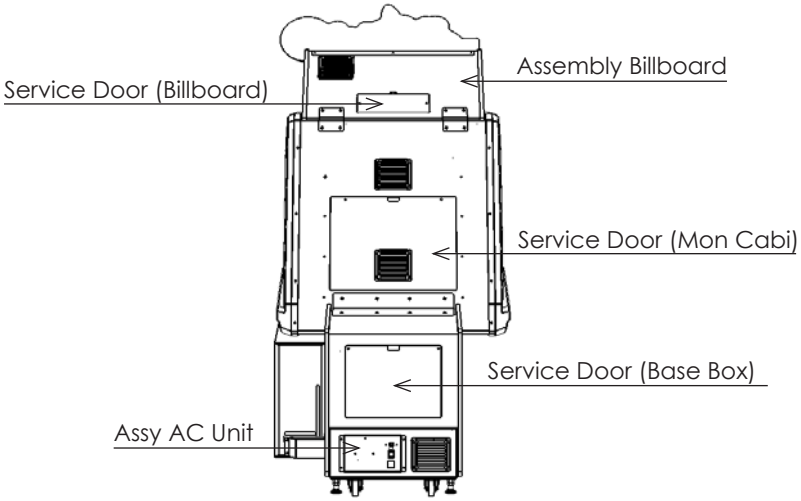
  This product is intended for a single player only. Having two or more persons simultaneously playing this product can result to injury to the player and possible damage to the product.
- **Even players who have never been adversely affected by light stimulus might experience dizziness or headache depending on their physical condition when playing the game.**

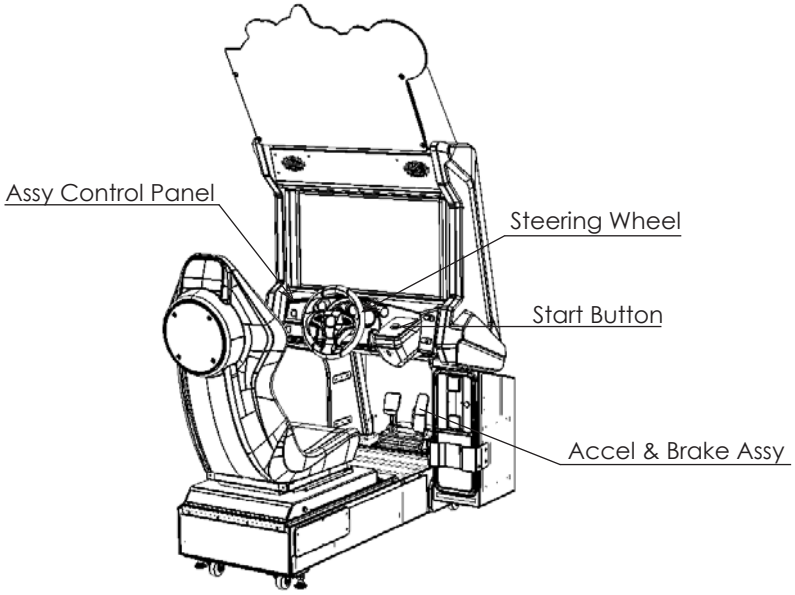
  Small children are especially likely to experience these symptoms. Caution guardians of small children to keep watch on their children during play.
- **Instruct those who feel sick during play to have a medical examination.**
- **To avoid injury from falls and electric shocks due to spilled drinks, instruct the player not to place heavy items or drinks on the product.**
- **To avoid electric shocks and short circuits, do not allow customers to put hands and fingers or extraneous matter in the openings of the product or small openings in or around the doors.**
- **To avoid falls and resulting injury, immediately stop the customer from leaning against or climbing on the product, etc.**
- **To avoid electric shock and short circuit, do not allow customers to unplug the power plug without a justifiable reason.**
- **Instruct the guardians of small children to keep an eye on their children.**

  Children cannot sense danger. Allowing small children to get near a player who is playing the game could result in the children being bumped, struck or knocked down.

4 PART DESCRIPTIONS







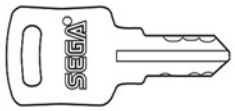
5 ACCESSORIES

Confirm that the accessories listed in the table below are present when setting up the product.
Accessories marked “Spare” in the note column are consumable items but included as spares.

DESCRIPTION: OWNER’S MANUAL
Part No. (Qty.): 420-0012UK(1)

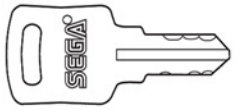
Parts not labeled with part numbers are as yet unregistered or cannot be registered. Be sure to handle all parts with care, as some parts are not available for purchase separately.

KEY MASTER
220-5575-01UK (2)
For operating/closing the doors

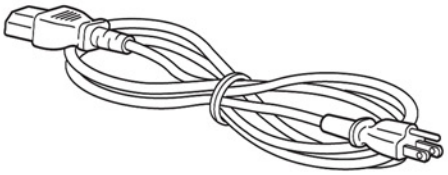


KEY
(2)

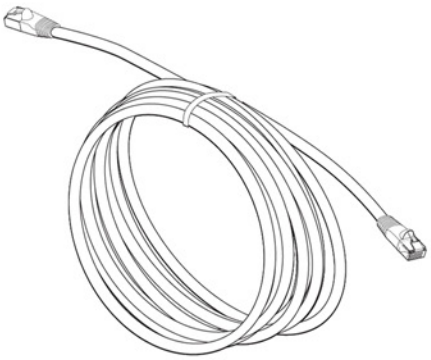
For the cashbox door
(Located inside the coin chute door at time of shipment)



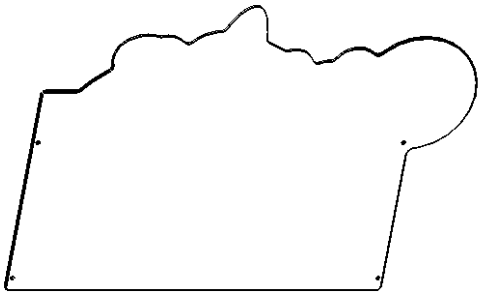
440-CS0186UK
Sticker C Epilepsy Multi (1)



POWER CORD
LM1227 (1) <UK>
LM1226 (1) <EU>
For installation. See chapter 6.

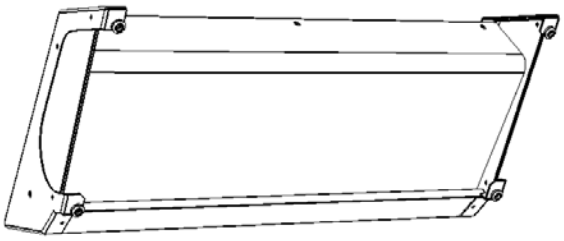


Assy LAN Cable 150cm
600-7269-0150UK (1)



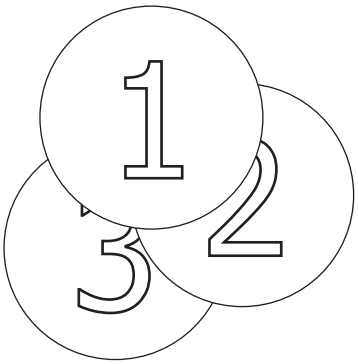
BILLBOARD PLATE
SSR-0507UK

For installation. See chapter 6.



ASSY BILLBOARD
SSR-0500UK

For installation. See chapter 6.



STICKER BILLBOARD INSERT No1-8

SSR-0507-BUK - No1 SONIC
SSR-0507-CUK - No2 TAILS
SSR-0507-DUK - No3 Dr EGGMAN
SSR-0507-EUK - No4 SHADOW
SSR-0507-FUK - No5 AIAI
SSR-0507-GUK - No6 AMY
SSR-0507-HUK - No7 AMIGO
SSR-0507-JUK - No8 BILLY HATCHER

For installation. See chapter 6.

6 ASSEMBLY AND INSTALLATION

⚠ WARNING

- Perform assembly work by following the procedure herein stated. Failure to comply with the instructions can cause electric shock.
- Perform assembly as per this manual. Since this is a complex machine, incorrect assembling can cause an electric shock, machine damage and/or improper functioning as per specified performance.
- When assembling, more than one person is required. Depending on the assembly work, there are some cases in which working by one person alone can cause personal injury or parts damage.
- Ensure that connectors are properly connected. Improper connections can cause electric shock.
- Be careful not to damage the wires. Damaged wires may cause electric shock or short circuit or present a risk of fire.
- Do not unnecessarily push the display screen.
- This work should be carried out by site maintenance personnel or other qualified professionals. Work performed by non-technical personnel can cause a severe accident such as electric shock. Failing to comply with this instruction can cause a severe accident such as electric shock to the player during operation. If no one with proper technological expertise is available, request service from the office indicated in this document or the point of purchase so as to ensure safety.
- Provide sufficient space so that assembling can be performed. Performing work in places with narrow space or low ceiling may cause an accident and assembly work to be difficult.
- To perform work safely and avoid serious accident such as the cabinet falling down, do not perform work in places where step-like grade differences, a ditch, or slope exist.
- This product does not use any connectors other than those connected to and used by the game board when it leaves the factory. Do not needlessly connect wires to unused connectors. This could lead to overheating, generation of smoke and burn related injuries.

⚠ CAUTION

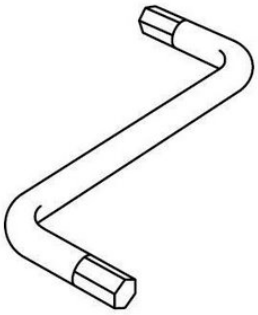
- Handle molded parts with care. Excessive weight or pressure may cause them to break and the broken pieces may cause injury.
- To perform the operation safely and accurately you must use a safe, steady footstool or stepladder. Working without this may lead to a fall and possible injury.

6-1 INSTALLING THE CABINET

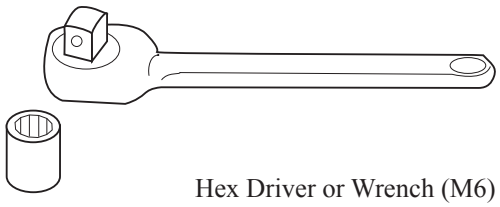
⚠ CAUTION

- **Billboard weighs approximately 19 kg. Have at least 2 people during this operation. Working alone could result in personal injuries, etc.**
- **To perform work safely and securely, be sure to prepare a step which is in a safe and stable condition. Performing work without using a step may lead to injury of damage to components.**

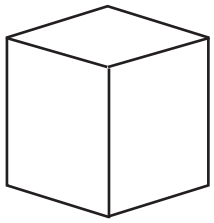
Tools required for installation



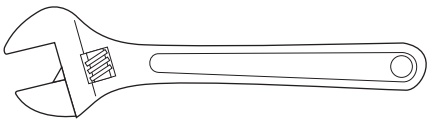
Allen Key (M5)
- Attaching Billboard Panel to Assy Billboard.
(Not Supplied)



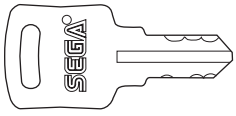
Hex Driver or Wrench (M6)
- Attaching Assy Billboard.



Step or Ladders
- Aid in fixing Billboard and Billboard Panel.



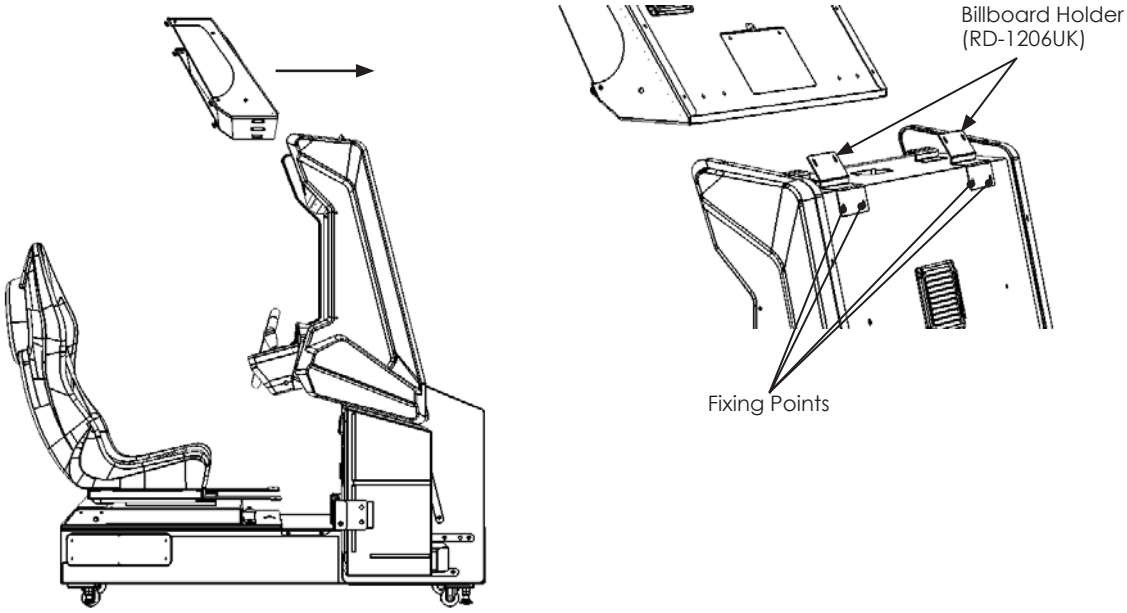
Adjustable Wrench
- Secure cabinet into position.



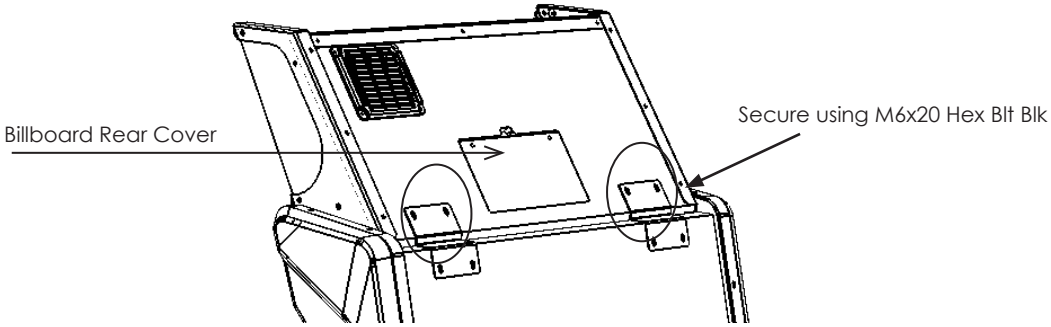
KEY
- Gain access to Coin Tower

6-1-1 INSTALLING THE ASSY BILLBOARD

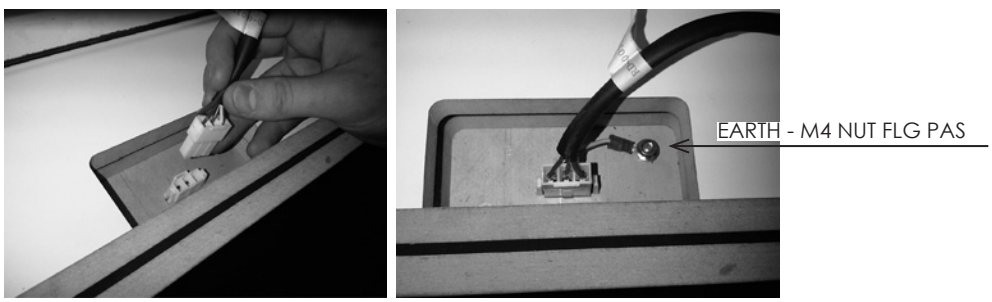
1 Fit 2x Billboard Holder (RD-2106UK) to the top of the Monitor Cab using 4x M6x20 Hex Bolt Black.



2 Lift and place the billboard on to the Monitor Cabinet from the front and gentle slide until contact with Billboard Holders. Take care not to trap any wires in this process. Secure the Assy Billboard to the upper fixing points of the Billboard Holder Brackets using 4x M6x20 Hex Bolt Black.



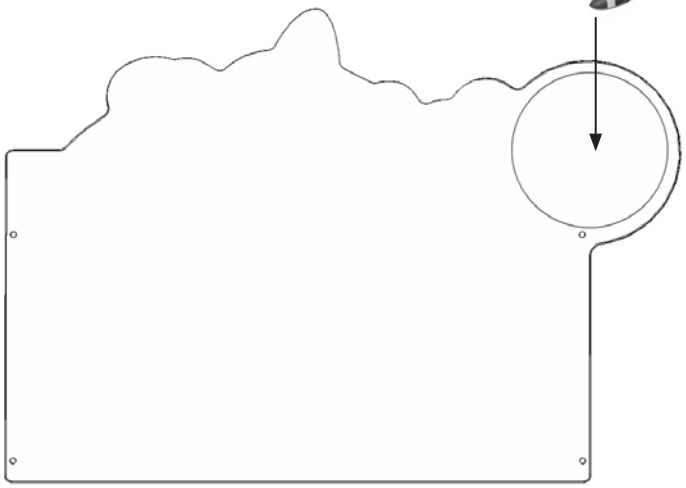
3 Remove the Assy Billboard Rear Cover using a Phillips No1 Screwdriver and locate the Billboard Harness. Connect the Billboard Harness to the Top of the Monitor Cabinet as shown.



6-1-2 INSTALLING THE BILLBOARD PLATE

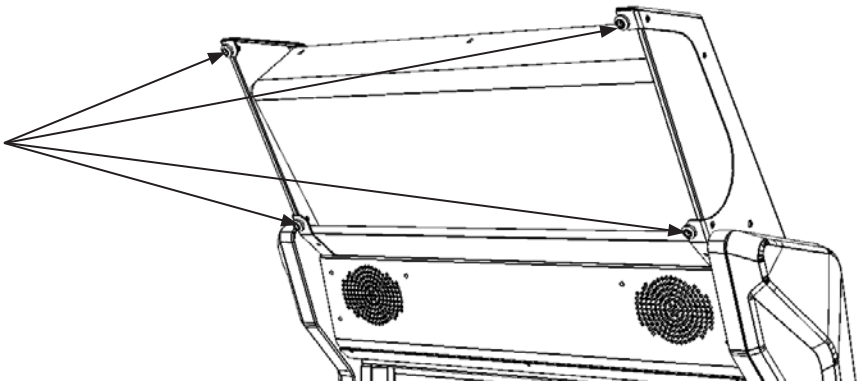
1 The individual character numbers are self adhesive and are applied onto the back face of the Billboard Plate.

Take care when handling the Character Number Stickers as the adhesive is applied to the printed surface it is possible to leave marks or fingerprints. Wash hands before applying or use a surgical type glove.

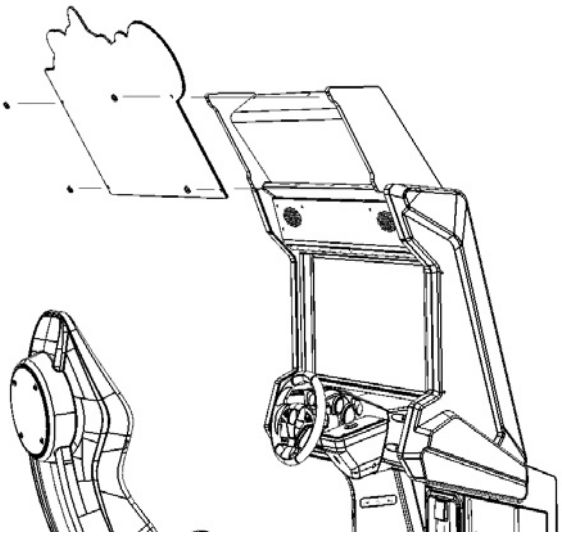


2 Locate and remove the 4 sets of fixings from the Billboard Plate fixing points

Remove fixings before fitting the Billboard Plate.



3 Fix the Billboard Plate into position using the fixings removed in step 2.



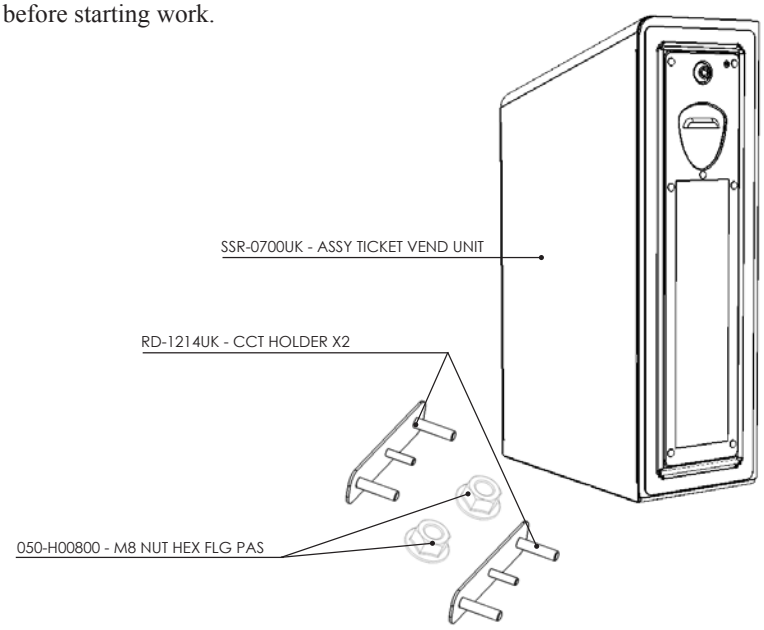
6-2 INSTALLING THE TICKET BOX (OPTIONAL)

This game has the option to install a Ticket Unit. The Ticket Unit can be set up to dispense an amount of tickets to the winner/loser of a race.

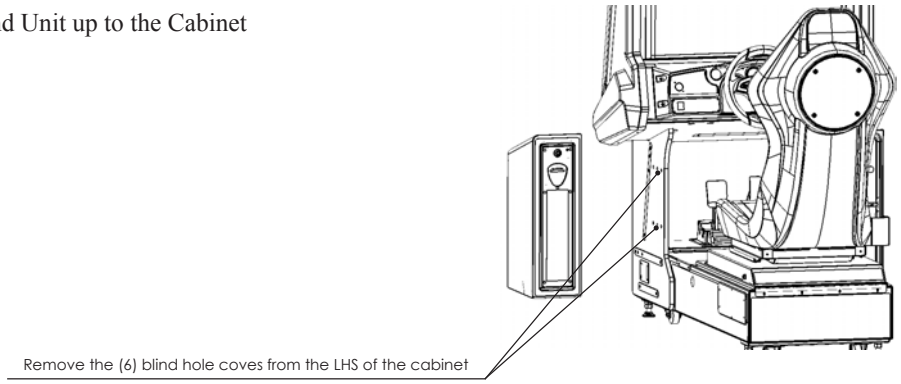
Please see section 9 / Game Test Mode / Game Adjustments for full operation settings of the Ticket Unit.

If you would like to purchase the Ticket Option, please contact your distributor or your local SEGA Office.

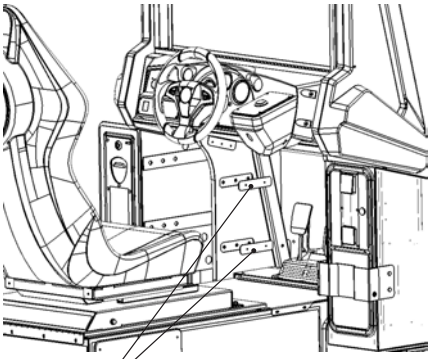
1 Ensure that all parts are present before starting work.



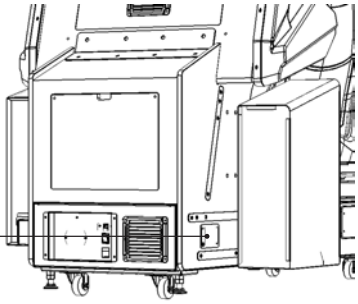
2 Offer the Ticket Vend Unit up to the Cabinet

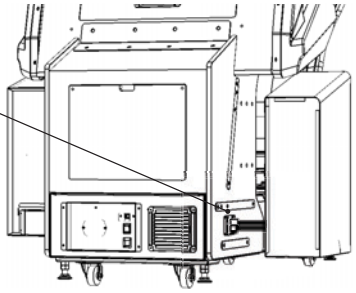


3 Feed both CCT HOLDERS (RD-1214UK) through the cabinet until the threads of the plate appear through the other side.

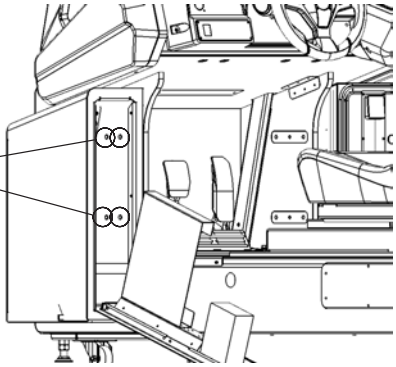


4 Before offering the TICKET VEND UNIT up to the cabinet, make sure all connections (including the Earth) are correctly made between devices.



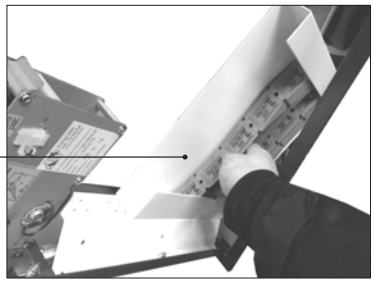

Connect the harness and EARTH from the TICKET VEND UNIT to the Connector Plate.
Note:
Any excess harness can be pushed into the Ticket Unit Housing to prevent trapping.

5 Unlock and open the TICKET VEND UNIT door and carefully offer up to the cabinet. Whilst holding the TICKET VEND UNIT firmly in place, secure where indicated using the (4) M8 hex nuts provided.



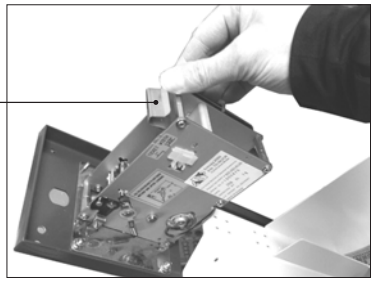
6 Place the Tickets into the TICKET HOLDER.

Ticket Holder



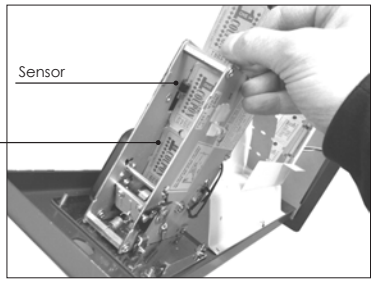
7 Feed the Tickets into the TICKET MECH.

Unclip and remove the Ticket retainier



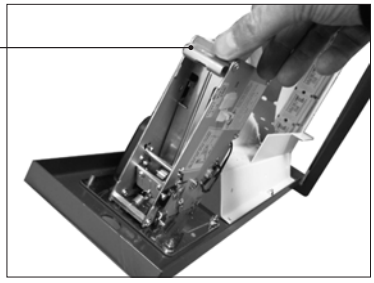
Sensor

Feed the tickets into the mech, making sure that the ticket passes through the sensor.



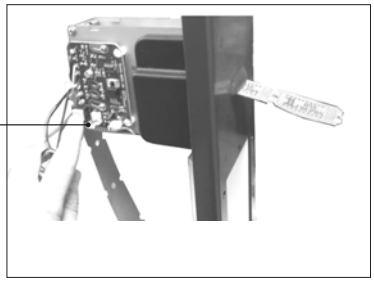
8 Press the TEST button on the side of the VEND MECH PCB to check that the Tickets run smoothly through the unit.

Once the tickets have been fully inserted into the mech, replace the ticket retainer to secure tickets into position.



Press the TEST button on the PCB to draw tickets through the mech and out of the door.

Tear off any excess tickets



6-3 FIXATION TO SITE

⚠ WARNING

- **Make sure that all the adjusters contact the floor. Otherwise the cabinet could move, causing an accident.**
- **Provide a ventilation space at least 20cm wide behind the cabinet. There are ventilation holes on the back of the cabinet. Do not block the ventilation holes. Doing so could trap heat inside resulting in fire. It could also result in equipment damage or cause parts to become exhausted prematurely.**

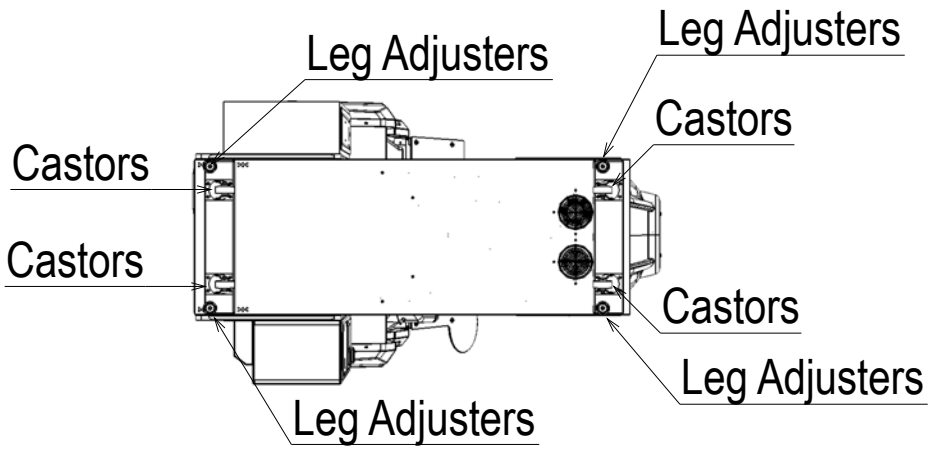
The product is equipped with 4 casters and 4 adjusters.

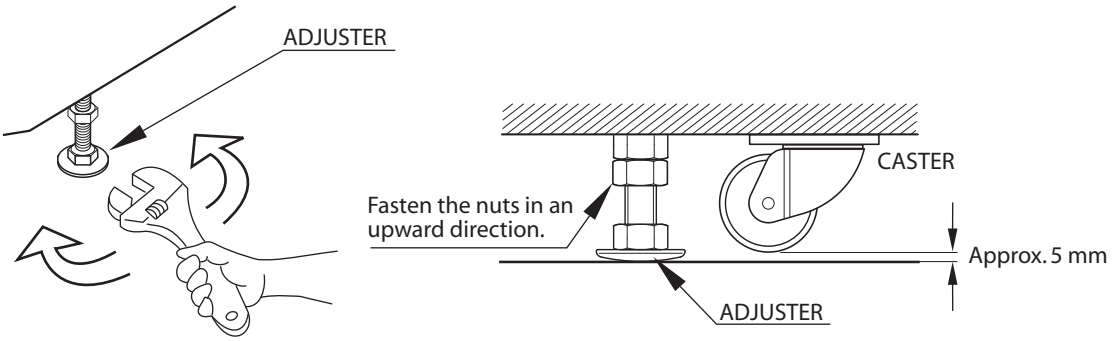
When installation position / site has been determined, have the adjusters come in direct contact with the floor. Establish a gap of about 5 mm between the floor and the casters and adjust the unit so that it will remain level.

1 Move the product to the installation site.

2 Bring the adjusters into direct contact with the floor. Use a wrench to align the height of the adjusters until the cabinet is perfectly level.

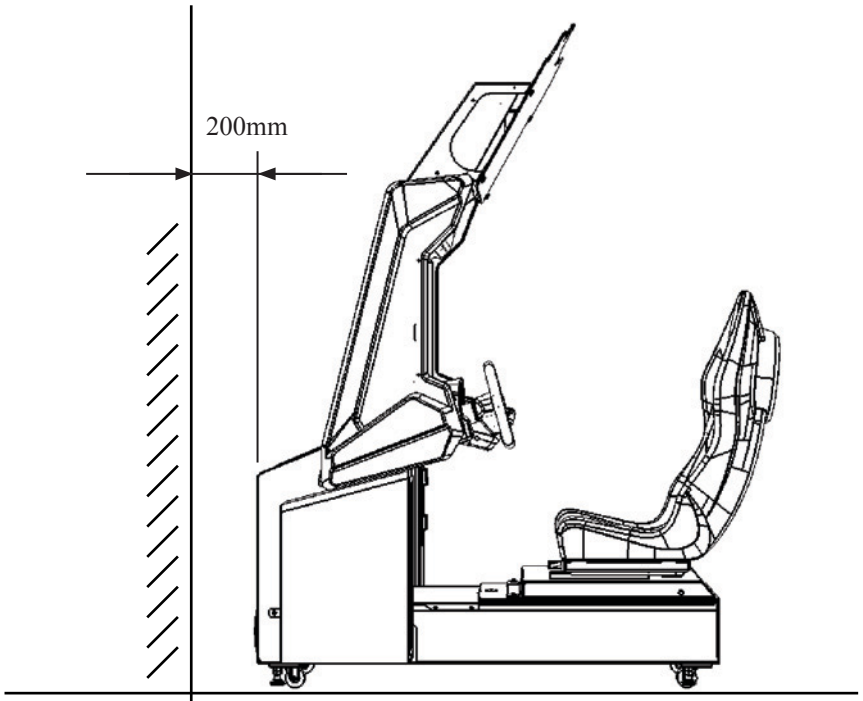
3 After setting, turn adjuster nuts upwards to tighten them and secure adjuster heights.





⚠ WARNING

• **Provide a ventilation space at least 20cm wide behind the cabinet. There are ventilation holes on the back of the cabinet. Do not block the ventilation holes. Doing so could trap heat inside resulting in fire. It could also result in equipment damage or cause parts to become exhausted prematurely.**



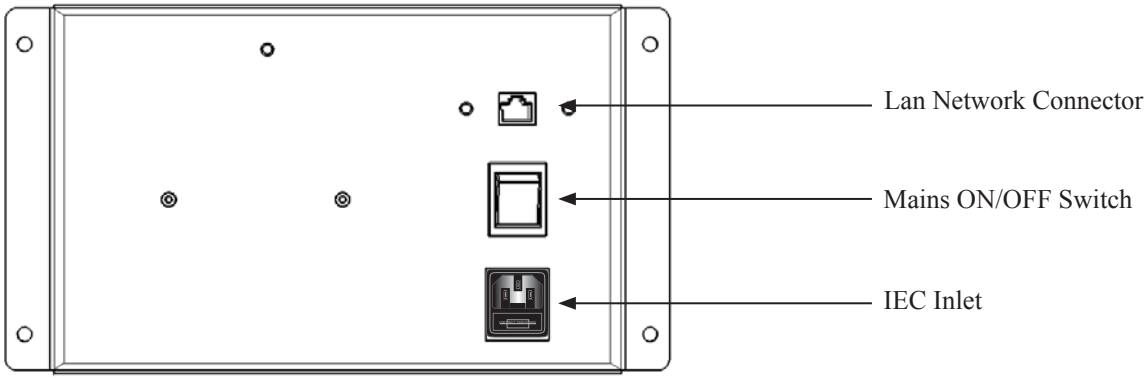
Leave a 200mm gap for ventilation

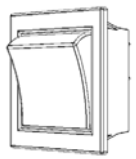
6-4 POWER SUPPLY AND OTHER CONNECTIONS

⚠ WARNING

- **Use the power supply equipped with an earth leakage breaker. Use of power supply without such a breaker could result in fire if there is a current leakage.**
- **Have available a securely grounded indoor ground terminal. Without proper grounding, customers could be electrocuted and product operations might not always be stable.**
- **Do not expose the power cord or ground wire. If these are exposed, customers could stumble over them, for instance, and easily damage them. Additionally, if these lines are damaged, there could be a risk of electrical shock or short circuit. Set these lines at locations where they will not interfere with customer traffic, or attach covers to them.**
- **After laying out the power cord on the floor, be sure to always protect it. If the power cord is left exposed, it can easily be damaged, resulting in electrical shock.**

1 Confirm that the main switch is at OFF.

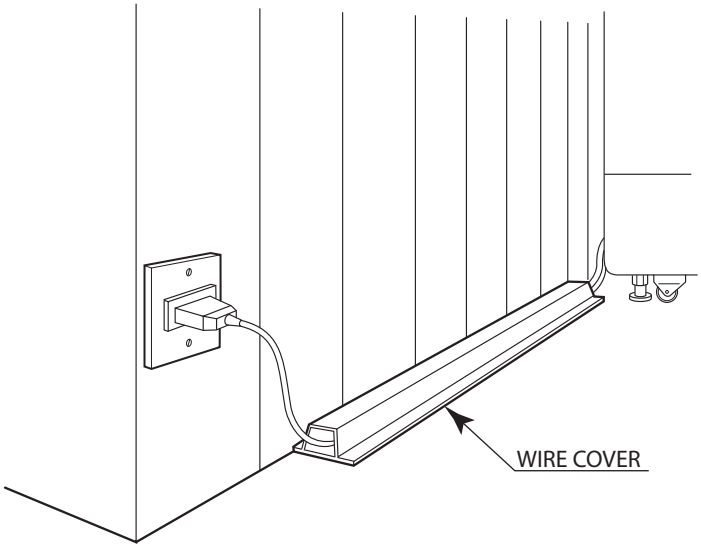




Mains Switch shown in OFF position

2 Fully insert the power cord connector on the side opposite the power plug into the AC unit IEC inlet. Insert the power cord plug into the outlet.

3 The power code is laid out indoors. Protect the power cord by attaching wire cover to it.



6-5 TURNING ON THE POWER

Set the main switch of the AC unit to ON and engage the power.

When you turn on the power, the billboard fluorescent lights will come on.

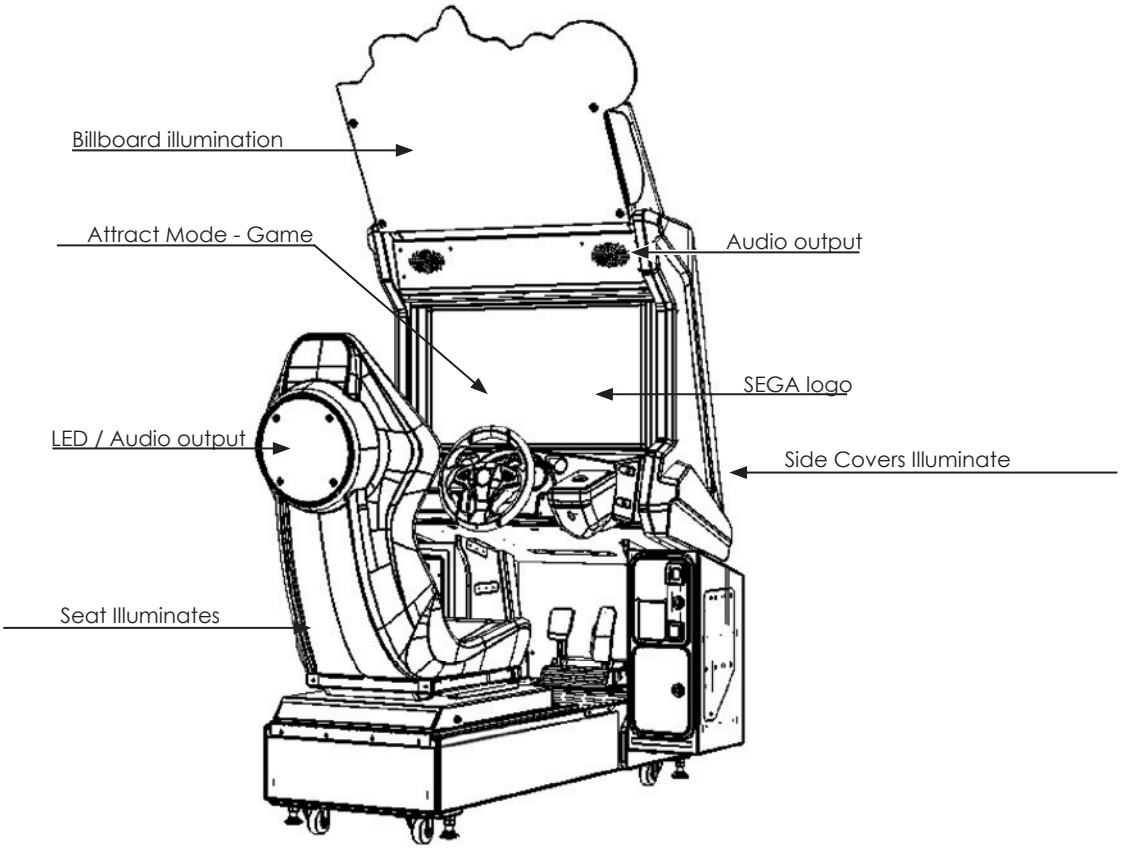
After the SEGA LOGO start up screen is displayed on the LCD screen, the Advertise (Attract) Mode will start.

The decorative LEDs within the seat and the side covers will scroll through a variation of colours.

Start up sounds are output from the speakers on the left and right of the cabinet together with display of the SEGA startup screen.

Even when the power source has been cut off, credit count, ranking data, game settings and bookkeeping data are kept stored in the product. However, fractional coin counts (inserted coins that do not amount to one credit) and bonus adder counts are not kept.

COMPONENTS WHICH CHANGE STATE WHEN POWER IS APPLIED



6-6 CONFIRMATION OF ASSEMBLY

In the test mode, ascertain that the assembly has been made correctly and IC Board is satisfactory.
In the test mode, perform the following test: (refer to chapter 9).

9-3-2 INPUT TEST

This menu is used to test the system inputs such as steering, pedals and buttons. To implement the test, press each device that is listed and check the results on screen.

9-3-3 OUTPUT TEST

This menu is used to test the system oututs such as Lamps and LED.

9-9 COIN SETTINGS

As this system utilises a Credit Board PCB, it is important that the setting remain 1 COIN 1 PLAY. Deveation from this setting when using the Credit Board PCB can result in unusual credit outputs.

9-11 NETWORK TEST

Apply and configure the network of each cabinet (only appiles if 2 or more cabinets are linked).

9-3-6 CALIBRATION TEST

This test is required to calibrated both steering mechanism and control pedals. This procedure is always carried out at the factory before dispatch. However, certain conditions can have an effect on calibration and it is recommended that re-calibration be carried out at point of installtion.

6-7 APPLYING WARNING LABELS (EPILEPTIFORM SEIZURES)

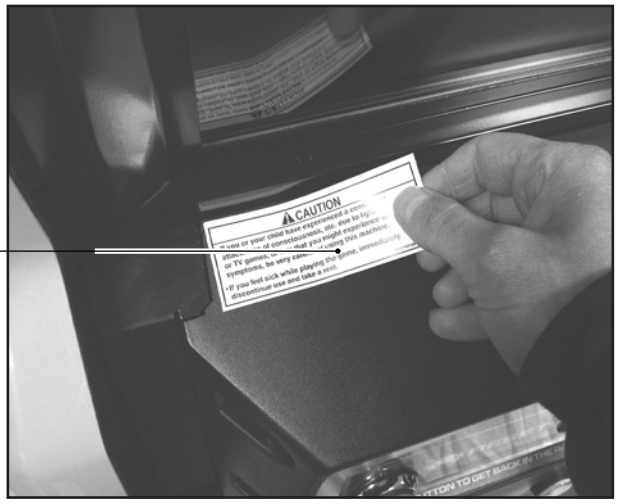
⚠ CAUTION

- **The operator MUST apply the Epileptiform Seizure Label to this product. Failing to apply this label may result in the player/observer suffering from a photosensitive seizure. Warning the potential player/ observer of this before the start of a game may prevent such accidents.**
- **It is also important to apply the correct language label for each location. There are nine (9) different language labels - please apply the label which matches your location.**

STOP IMPORTANT

Application of any warning labels must be placed in a location which is easy for the player/observer to read. Please follow the instructions below and apply the label in the location stated.

The Epileptiform Seizure label is supplied in 9 different languages. Please choose the label which matches your language location.



Apply the label to the top left hand corner of the Control Panel. This location is unobstructed and can be easily read by players and observers alike.

7 PRECAUTIONS WHEN MOVING THE MACHINE

⚠ WARNING

- **Always disconnect the power cable before moving the product. If it is moved with the power cable connected, the cable could be damaged, causing fire or electric shock.**
- **To move the unit over the floor, pull in the adjustors and have the casters contact the floor. While moving the unit, be careful that the casters do not roll over the power cord or the ground wire. If cord or wire is damaged, there could be electrical shocks and/or short circuits.**
- **When crossing a sloped or stepped area, always have the machine travel lengthways. Travelling with the machine in a sideways position could result in the machine falling over onto its side. Always use a minimum of two people working together plus lifting apparatus to accommodate slopped areas or stairs.**
- **To lift up the cabinet, hold it at the bottom at the designated lifting points. If you hold it anywhere else, the weight of the cabinet could cause damage to parts or attachments, resulting in injury.**
- **Do not push the cabinet from the side when moving. Pushing from the side as it may result in the cabinet falling over.**

STOP IMPORTANT

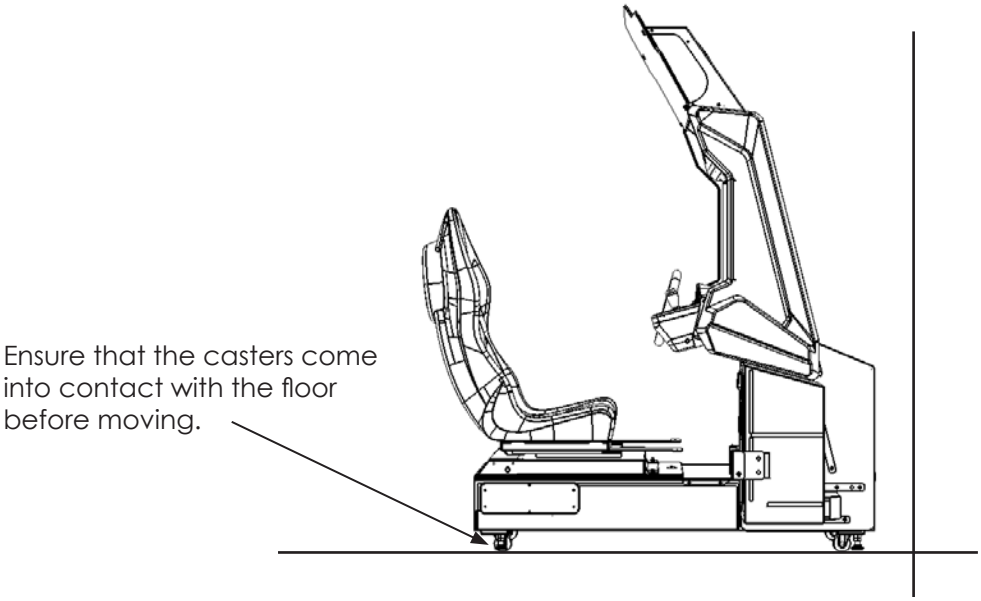
- **When moving the cabinet, do not grip or push the Billboard Plate. Doing so could deform or damage the part.**
- **If moving through a door or place with a low ceiling such as an elevator, you should take apart the billboard and billboard plate.**

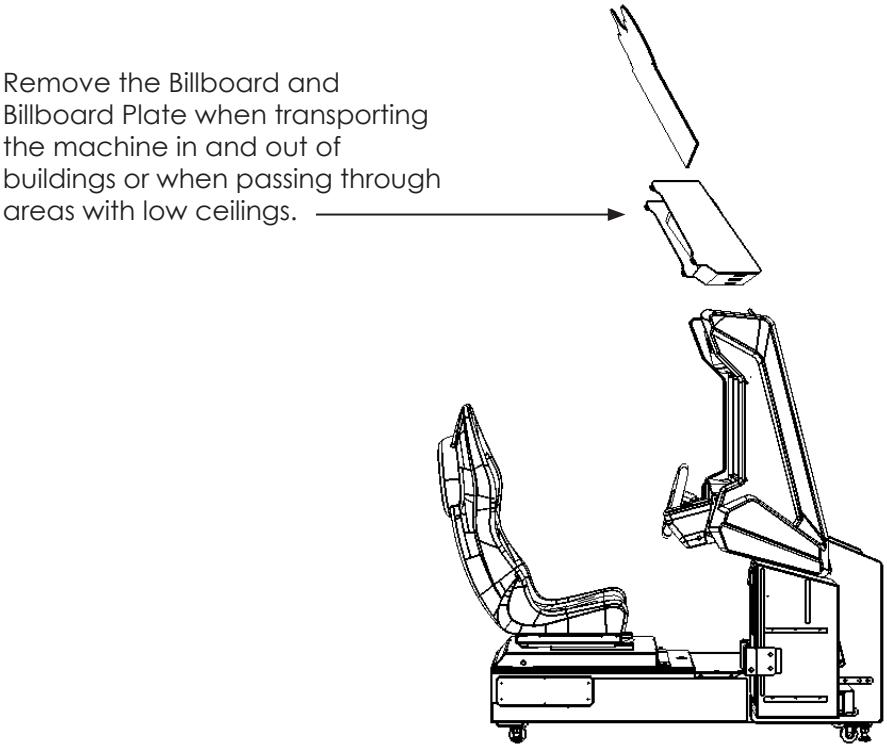
7-1 PRECAUTIONS WHEN MOVING FROM SITE

STOP IMPORTANT

- **When moving the cabinet, do not grip or push the Billboard Plate. Doing so could deform or damage the part.**
- **If moving through a door or place with a low ceiling such as an elevator, you should take apart the billboard and billboard plate.**

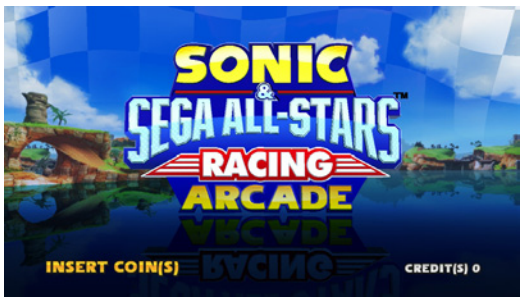
Detailed instructions for removing the Assy Billboard and Billboard Plate can be found in Chapter 6 of this manual. Please follow these instruction in reverse order for removal.




Remove the Billboard and Billboard Plate when transporting the machine in and out of buildings or when passing through areas with low ceilings.

8 GAME DESCRIPTION

8-1 GAME OUTLINE



Game Overview

Races in SONIC & SEGA ALL-STARS Racing Arcade are against the CLOCK and OTHER OPPONENT CARS. Each game mode features a RACE TIMER continually counting down the remaining play time which can be increased by starting a new lap on the track that is being raced upon.

There are several game modes within SONIC & SEGA ALL-STARS Racing Arcade. In addition to choosing either 'Multiplayer' or 'Single Player', players have 3 different Game Types to choose from in 'Single Player'.

Single Race
Time Trials
Grand Prix

The game can be played upon a linkable network of up to 8 players. All players in a network can share highscores and ghost cars

Game Selection

WHEN THE MACHINE IS IN CREDIT AND THE START BUTTON IS PRESSED, THE FOLLOWING GAME

SCREEN IS DISPLAYED, INDICATING THE GAME PLAY AVAILABLE.

Whether a cabinet is not linked up to any other cabinets, or if it is linked up with multiple cabinets, the first action of the player is to select whether to enter into a Multiplayer or Single Player game. The default selection is Multiplayer, so if the game is left to time out on this screen, a Multiplayer Lobby will be created where other players can then join. This only occurs if the cabinet is linked to other cabinets however. If it is not linked to any others, the player will automatically be taken into a single player game. If the player wants to enter into a Single Player game, they must hold down the DRIFT PEDAL in order to be taken to the Single Player Game Mode Select Screen.

During this selection sequence, a COUNTDOWN is displayed in the middle of the screen. If the player does not hold down the DRIFT PEDAL to enter a Single Player game, the game will automatically set up a Multiplayer Lobby once the time on the countdown has run out, as long as the cabinet is linked together with other cabinets.

If the player has entered into a Single Player Game, they will have the choice of choosing either SINGLE RACE, TIME TRIALS or GRAND PRIX.

The default selection is SINGLE RACE and this can be changed by moving the 'Steering Wheel' either left or right. When the desired Game Mode is displayed the player can make their selection by pressing the ACCELERATOR pedal or START button to confirm their choice. A COUNTDOWN timer is also displayed in the top left corner of the screen. If the timer is left to run out, whichever Game Mode is highlighted at this time will be automatically selected and the game will advance to the next stage; Character Select.

GRAND PRIX – 1 PLAYER

Grand Prix is a single player race against AI opponents over a sequence of tracks. This mode has three races which are always raced in the same order with the easiest track being first and the hardest track being last.

Progress is maintained by completing a lap on the selected track which acts as a checkpoint, adding on a set amount of time to the COUNTDOWN timer displayed in the top middle of the screen. The time handed out at each of these laps/checkpoints becomes smaller on a harder difficulty setting.

Upon completing a race, if the player finishes in the top 3 they will automatically be moved on to the next race which will have a higher difficulty.

Depending on what the Grand Prix settings have been set as in the GAME ASSIGNMENTS screen in the Test Menu, the following actions will occur if the player runs out of time while racing on any of the tracks or fails to finish within the top 3:

With GRAND PRIX set to ENABLED: If a player fails to finish in the 1st race they will not be able to continue and will be sent to the Game Over screen. If they fail to finish in the 2nd or 3rd race, they will have the option to retry the track if they insert a credit. If the player finishes any of the races in 4th position or below, they will be given the option to retry the track if they insert a credit. If a credit is not inserted to continue in either scenario, the player will be sent to the Game Over screen.

With GRAND PRIX set to DISABLED: If a player does not finish within the top 3 on any track, they will be taken straight to the Game Over screen. There is no option to retry the race by inserting a credit.

With GRAND PRIX set to ENABLED ON CREDIT: If a player fails to finish in the 1st race they will not be able to continue and will be sent to the Game Over screen. If they fail to finish on the 2nd or 3rd race they will be able to insert a credit top retry that race. If the player finishes within the top 3 in the race, they will have to insert a credit to be able to continue on to the next race within the Grand Prix.

The tracks that are raced on in Grand Prix are:

SUNSHINE TOUR
TURBINE LOOP
SANDY DRIFTS

During each track, the game will record the player's total time for that race. At the end of a successfully completed Grand Prix, the total time from all three tracks is added together, and the player is given a complete Total Time for the Grand Prix. If the total time achieved in that Grand Prix is among the top 10 times previously recorded on the cabinet or series of linked cabinets, the player will be prompted to enter a 3 letter name that will be entered into the High Score Table (HST) for Grand Prix.

In completing all three tracks in Grand Prix by finishing within the top 3, the player will be rewarded with a completion sequence. The player will then be shown the Credits sequence for the game during the completion sequence.

SINGLE RACE – 1 PLAYER

Single Race features a race over multiple laps of a single track against a grid of 7 opponent cars. When a Multiplayer Race is started, this also takes place over a single race on one track, with 7 opponent cars once again present. Any positions which are not filled by human players will be filled by AI controlled racers when the race begins. There is no scoreboard entry in Single Race,

There are ten tracks to pick from in Single Race. These range in difficulty from Easy to Medium to Hard, with each track displaying what difficulty they are. The tracks available in Single Race are:

Whale Lagoon
Shibuya Downtown
Outer Forest
Pinball Highway
Rampart Road
Dark Arsenal
Jump Parade
Lost Palace
Highway Zero
Bingo Party

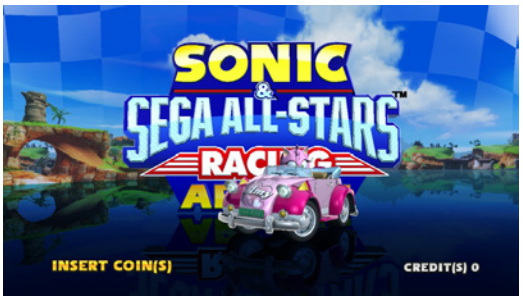
TIME TRIALS – 1 PLAYER

Time Trials features a race over multiple laps of a single track where the aim is for the player to set the fastest lap time possible. It is a solo race with no opponent cars present, and no weapon items available other than a High Speed Shoe which the player receives one of at the start of each new lap.

A Ghost Car will also be on the track. This will be a record of the currently held top lap time on that track and will show the race that the player had when that time was recorded along with the character that they used.

The fastest lap time that the player achieves in the race will be recorded. If the lap time achieved in that race is among the top 10 times previously recorded on the cabinet or series of linked cabinets, the player will be prompted to enter a 3 letter name that will be entered into the High Score Table (HST) for that track.

MULTIPLAYER – 2 TO 8 PLAYERS



When starting up a Multiplayer Single Race, the players are first asked to select a character to represent them in the race before they are taken to the Track Select. Players are not able to select the same character as one another. Once a character has been selected, any other player will be unable to select that character. There is no scoreboard entry in multiplayer races.

In a multiplayer game, Track Selection is decided upon by a voting system. Each player within the game will be given their choice of what track to select. Once all players have selected a track, whichever track had the most votes will be the one that the players will then race on. In the case of a tie, the track that is the easiest in difficulty of the ones voted for will be the one that is raced on.

The race timer is added to whenever the player (or leading player in the case of link play) begins a new lap. In the case of Time Over, there are no continues.

Character Selection

The next choice for the player after they select the Game Mode is to select which Character to use on the track that they will race on. SONIC & SEGA All-STARS Racing Arcade has a total of 13 characters selectable with one secret character also available. Turning the Steering Wheel left and right will enable the player to see each of the characters that are available to be selected. When the desired character is displayed, the selection can be made by pressing either the Gas pedal or the Start button.

During this selection sequence, a COUNTDOWN timer is displayed in the top left hand corner of the screen. If the player does not make a selection during this time, when the timer reaches zero, the character that is currently highlighted will be automatically selected and the game will advance to the next stage; Track Select, or if the player is in Grand Prix, the player will be taken straight to the first race.

All the characters are available across all the game modes. The list of which characters are available in the game can be found in the table below:

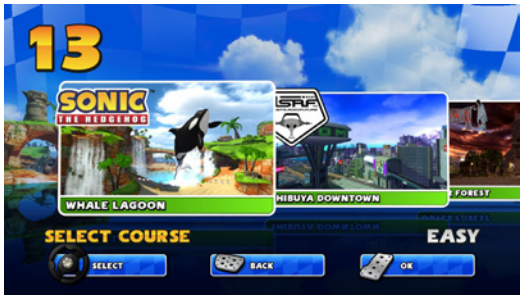
CHARACTER
SONIC
AIAI
BILLY HATCHER
AMIGO
ULALA
BEAT
B.D. JOE
RYO
RYO (FORKLIFT)*
JACKY & AKIRA
DR. EGGMAN
SHADOW
AMY
TAILS

A secret character (Ryo Forklift) is available in all game modes and can be unlocked by performing the following actions:

If the player holds down both the Drift Pedal and Item Button on the steering wheel when pressing the Start button to begin a game, the Ryo Forklift character will become available on the Character Select screen. Players will not be able to use both versions of Ryo in a Multiplayer race. Only one version of the character can be used.

TRACK SELECTION

The next choice for the player after selecting their Character is to select which Track to Race on. (In Grand Prix, the tracks are automatically selected for the player). SONIC & SEGA ALL-STARS Racing Arcade features a total of 13 tracks though not all tracks are available in every Game Mode. Turning the 'Steering Wheel' left and right will change the selected track and allow the player to view each track that is selectable in the game mode that is being played. When the desired track is displayed, it can be selected by pressing either the Gas pedal or the Start button to confirm the choice.



During this selection sequence, a COUNTDOWN timer is displayed in the top left corner of the screen. If no selection has been made when the timer runs out, the track that is currently highlighted at that point will be automatically selected, and the player will be taken to the loading screen of the race.

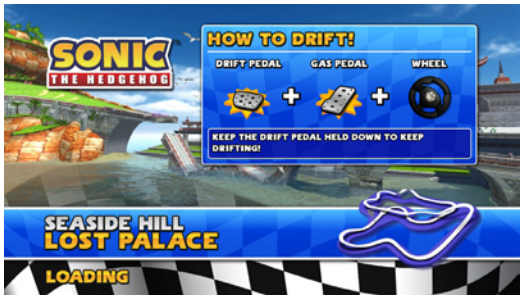
Single Race contains 10 tracks. Grand Prix contains 3 tracks which are raced in the same order each time as the player progresses through the game mode.

The table below shows what Tracks are available to select from for each of the Game Modes.

Track	Grand Prix	Single Race or Time Trials
Whale Lagoon	X	O
Shibuya Downtown	X	O
Outer Forest	X	O
Pinball Highway	X	O
Rampart Road	X	O
Dark Arsenal	X	O
Jump Parade	X	O
Lost Palace	X	O
Highway Zero	X	O
Bingo Party	X	O
Sunshine Tour	O	X
Turbine Loop	O	X
Sandy Drifts	O	X

On Screen Display

Before a race begins, an information screen is displayed on the loading screen describing to the player how to Drift



during a race. This is only shown on the loading screens for Single Race, Multiplayer and Time Trials.

SINGLE RACE AND GRAND PRIX

Item Box – Displays the Item currently held by the player.
Time Left – Time remaining to complete the lap and extend the time.
Lap Indicator – Displays which lap the player is currently on.
Position – Displays the player's position in the race.
Proximity Indicator – Represents position and distance of opponents approaching from the rear.

TIME TRIALS

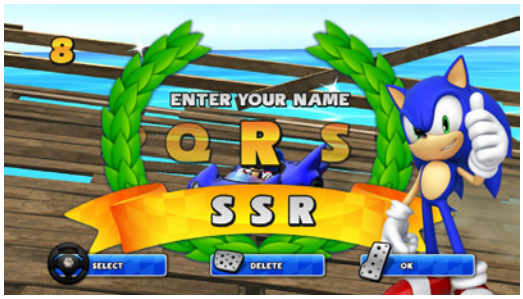
Item Box – Displays the Item currently held by the player.
Time Left – Time remaining to complete the lap and extend the time.
Current Lap – Displays the time of the lap the player is currently on.
Best Lap – Displays the time of the best lap that has been achieved on the track.
Lap Indicator – Displays which lap the player is currently on.

High Score Tables

Each of the single player modes except Single Race will record the fastest lap times with separate data being kept for each track. In the case of Grand Prix it is not the fastest lap time, but the fastest total time in Grand Prix that is recorded. Each of the High Score Tables will hold the Top 10 times for each track or Grand Prix.

Data Recorded:

Rank
Character Used
Name (3 characters)
Time



TO ENTER A NEW RECORD

1.Turn the Steering Wheel left and right to scroll to the required letter.

2.Press the Gas Pedal or Start Button to enter the letter.

3.Pressing the Brake Pedal will erase any selected letter.

9 EXPLANATION OF TEST AND DATA DISPLAY

Perform tests and data checks periodically by manipulating the TEST Button and SERVICE Button in the cabinet. Follow the instructions in this chapter to conduct checks when the game machine is first installed, when money is being collected, or when the game machine does not operate properly.

Shown overleaf are the tests and screens to be used for different problems.

⚠ WARNING

- **When installing 2 of more cabinets which are networked together. The GAME SETTINGS which are adjusted within the first cabinet are reflected throughout all cabinets within that network.**

STOP IMPORTANT

- **When changing the game configuration within the TEST MODE, be sure to exit all screens in the correct manner by choosing exit. DO NOT turn the machine ON/OFF to resume game. Changes WILL NOT take effect unless the correct method is used.**

9-1 SWITCH UNIT AND COIN METER.

⚠ WARNING

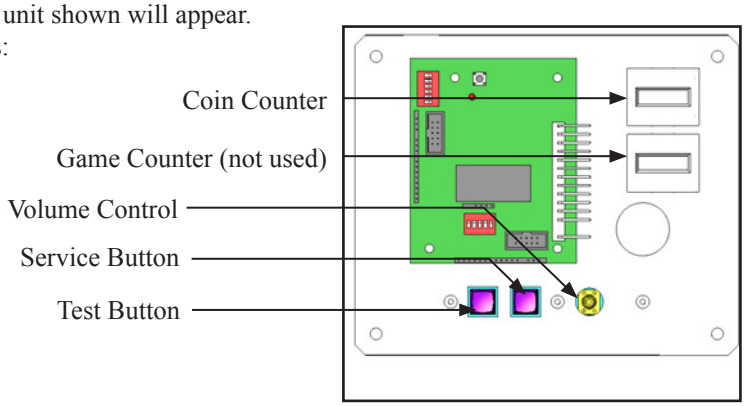
Never touch places other than those specified. Touching places not specified can cause electric shock and short circuit accidents.

STOP IMPORTANT

- **Adjust the sound to the optimum volume, taking into consideration the environmental requirements of the installation location.**
- **Removing the Coin Meter circuitry renders the game inoperable.**

9-1-1 SWITCH UNIT

Open the coin chute door, and the switch unit shown will appear.
The functioning of each SW is as follows:



9-1-1 FIG. 01

TEST Button (TEST):	For the handling of the Test Button, refer to the following pages.
SERVICE Button (SERVICE):	Gives credits without registering on the coin meter.
Sound Volume Switch (SOUND VOLUME):	Adjust sound volume for all of the machines' speakers.
Coin Counter	Counts and displayes coins in $0.10 units.
Game Counter	Counts games played

9-2 SYSTEM TEST MODE

IMPORTANT

The details of changes to Test Mode settings are saved when you exit from each Test Mode by selecting EXIT. Be careful because if the power is turned off before that point, changes to the settings will be lost.

SYSTEM TEST MODE can be used to check the information or the operation of RINGWIDE, adjust Monitor color, and perform coin/credit settings.

1 Press the TEST Button after powering on the unit to display the following SYSTEM TEST MODE.

■ **SYSTEM TEST MODE Screen**

SYSTEM TEST MODE

GAME TEST MODE 9-3
SYSTEM INFORMATION 9-4
STORAGE INFORMATION 9-5
JVS TEST 9-6
MONITOR TEST 9-7
SPEAKER TEST 9-8
COIN ASSIGNMENTS 9-9
CLOCK SETTING 9-10
NETWORK SETTING 9-11
-> EXIT 9-12

SELECT WITH SERVICE BUTTON
AND PRESS TEST BUTTON

2 Use the SERVICE Button to move the cursor to the desired test item.

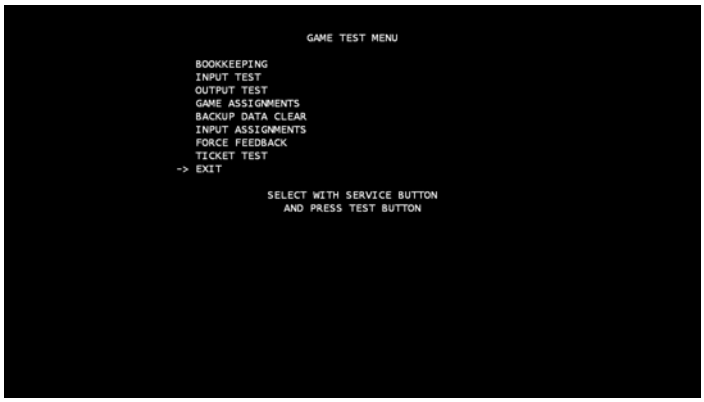
3 Press the TEST Button to enter the selected item's test.

4 After the test is complete, move the cursor to EXIT and press the TEST Button to return to the game play screen.

Each item is explained below.

9-3 GAME TEST MODE

Opens the Game Test Mode, allowing game specific settings and tests to be performed. This option will be displayed in grey until preparations are complete. Select the Game Test Mode option to begin the game test.

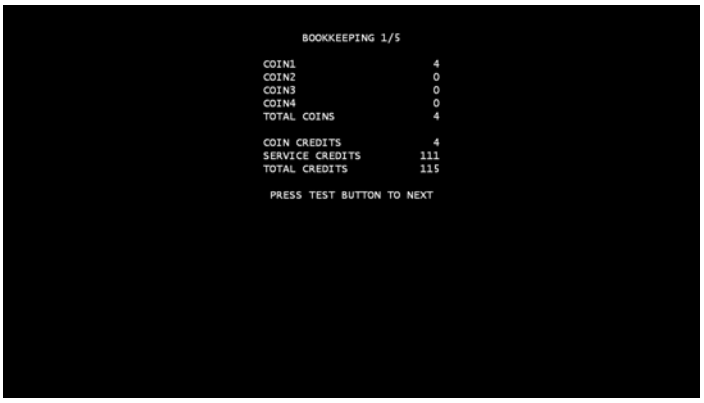


The following options are available from the Game Test Mode.

Use the SERVICE button to move the cursor to the desired test item.
Press the TEST button to enter the selected item.

BOOKKEEPING – System meters and bookkeeping.
INPUT TEST – Test routine for input peripherals
OUTPUT TEST – Test routine for out peripherals
GAME ASSIGNMENTS – Change settings within the game.
BACKUP DATA CLEAR – Clear the backup data within the game.
INPUT ASSIGNMENTS – Calibration routine for input peripherals
FORCE FEEDBACK – Change the force feedback settings within the game.
TICKET TEST – Test the ticket settings within the game.
EXIT – Press the Test button to return to the System Test Mode screen.

9-3-1 BOOKKEEPING



Select “Bookkeeping” from the Game Test Mode screen to enter the Bookkeeping screen.

Bookkeeping Page 1

This test is used to review statistical data from the system. It consists of 5 screens of data. Page 1 displays an overview of the coins and credits data.

COIN 1 – Displays number of coins used for each cabinet when one coin mech is used and Coin Chute Type is set to COMMON. This is for Cabinet 1.
COIN 2 – Displays number of coins used for each cabinet when one coin mech is used and Coin Chute Type is set to COMMON. This is for Cabinet 2. (This is not applicable to Sonic & SEGA All Stars Racing Arcade).
COIN 3 – Displays number of coins used for each cabinet when one coin mech is used and Coin Chute Type is set to COMMON. This is for Cabinet 3. (This is not applicable to Sonic & SEGA All Stars Racing Arcade).
COIN 4 – Displays number of coins used for each cabinet when one coin mech is used and Coin Chute Type is set to COMMON. This is for Cabinet 4. (This is not applicable to Sonic & SEGA All Stars Racing Arcade).
TOTAL COINS – Displays the total number of coins used.
COIN CREDITS – Displays the number of credits used by inserting a coin.
SERVICE CREDITS – Displays the number of service credits used.
TOTAL CREDITS – Displays the total number of credits used between COIN and SERVICE

Press the Test Button to go to Page 2.

PAGE 2/5

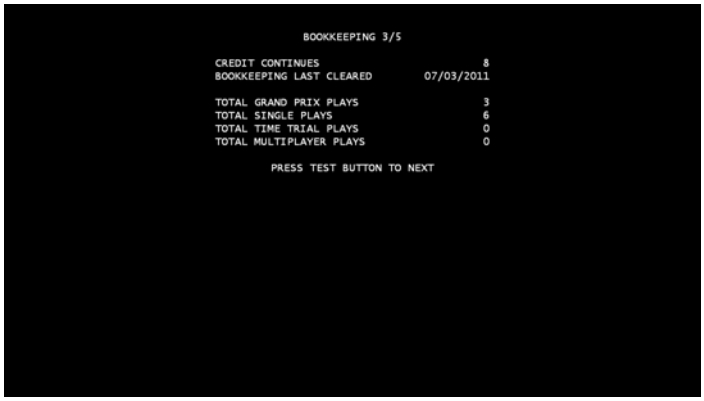
BOOKKEEPING 2/5
NUMBER OF GAMES 13
TOTAL TIME 00D 01H 38M 39S
PLAY TIME 00D 00H 46M 01S
AVERAGE PLAY TIME 00H 03M 32S
LONGEST PLAY TIME 00H 08M 15S
SHORTEST PLAY TIME 00H 01M 43S
TICKETS DISPENSED 0
TICKETS OWED 0
PRESS TEST BUTTON TO NEXT

Bookkeeping – Page 2 – Data on Average Game Times

NUMBER OF GAMES – Displays the total number of games played.
TOTAL TIME ON – Displays the total amount of time the cabinet has been on.
PLAY TIME – Displays the total amount of play time within the game.
AVERAGE PLAY TIME – Displays the average amount of time played during each session.
LONGEST PLAY TIME – Displays the longest amount of time played during one session.
SHORTEST PLAY TIME – Displays the shortest amount of time played during one session.
TICKETS DISPENSED – Displays the amount of tickets that have been dispensed.
TICKETS OWED – Displays the number of tickets that are owed.

Press the Test Button to go to Page 3.

PAGE 3/5


BOOKKEEPING 3/5
CREDIT CONTINUES 8
BOOKKEEPING LAST CLEARED 07/03/2011
TOTAL GRAND PRIX PLAYS 3
TOTAL SINGLE PLAYS 6
TOTAL TIME TRIAL PLAYS 0
TOTAL MULTIPLAYER PLAYS 0
PRESS TEST BUTTON TO NEXT

Bookkeeping – Page 3 – Data on Game Mode Plays

CREDIT CONTINUES – The number of coin credit continues used in Grand Prix
BOOKKEEPING LAST CLEARED – Displays the date of the last time the bookkeeping was cleared.
TOTAL GRAND PRIX PLAYS – Displays the total amount of times Grand Prix has been played.
TOTAL SINGLE PLAYS – Displays the total amount of times Single Race has been played.
TOTAL TIME TRIAL PLAYS – Displays the total amount of times Time Trials has been played.
TOTAL MULTIPLAYER PLAYS – Displays the total amount of times Multiplayer has been played.

Press the Test Button to go to Page 4.

PAGE 4/5

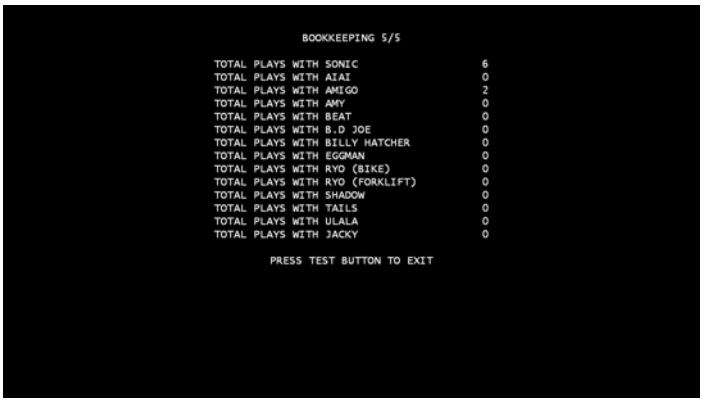
BOOKKEEPING 4/5
TOTAL PLAYS ON WHALE LAGOON 2
TOTAL PLAYS ON SHIBUYA DOWNTOWN 0
TOTAL PLAYS ON OUTER FOREST 0
TOTAL PLAYS ON PINBALL HIGHWAY 0
TOTAL PLAYS ON RAMPART ROAD 0
TOTAL PLAYS ON JUMP PARADE 3
TOTAL PLAYS ON DARK ARSENAL 0
TOTAL PLAYS ON LOST PALACE 0
TOTAL PLAYS ON HIGHWAY ZERO 0
TOTAL PLAYS ON BINGO PARTY 0
PRESS TEST BUTTON TO NEXT

Bookkeeping – Page 4 – Data on Track Plays

TOTAL PLAYS ON WHALE LAGOON – The total amount of times Whale Lagoon has been played.
TOTAL PLAYS ON SHIBUYA DOWNTOWN – The total amount of times Shibuya Downtown has been played.
TOTAL PLAYS ON OUTER FOREST – The total amount of times Outer Forest has been played.
TOTAL PLAYS ON PINBALL HIGHWAY – The total amount of times Pinball Highway has been played.
TOTAL PLAYS ON RAMPART ROAD – The total amount of times Rampart Road has been played.
TOTAL PLAYS ON JUMP PARADE – The total amount of times Jump Parade has been played.
TOTAL PLAYS ON DARK ARSENAL – The total amount of times Dark Arsenal has been played.
TOTAL PLAYS ON LOST PALACE – The total amount of times Lost Palace has been played.
TOTAL PLAYS ON HIGHWAY ZERO – The total amount of times Highway Zero has been played.
TOTAL PLAYS ON BINGO PARTY – The total amount of times Bingo Party has been played.

Press the Test Button to go to Page 5.

PAGE 5/5


BOOKKEEPING 5/5
TOTAL PLAYS WITH SONIC 6
TOTAL PLAYS WITH AIAI 0
TOTAL PLAYS WITH AMIGO 2
TOTAL PLAYS WITH AMY 0
TOTAL PLAYS WITH BEAT 0
TOTAL PLAYS WITH B.D JOE 0
TOTAL PLAYS WITH BILLY HATCHER 0
TOTAL PLAYS WITH EGGMAN 0
TOTAL PLAYS WITH RYO (BIKE) 0
TOTAL PLAYS WITH RYO (FORKLIFT) 0
TOTAL PLAYS WITH SHADOW 0
TOTAL PLAYS WITH TAILS 0
TOTAL PLAYS WITH ULALA 0
TOTAL PLAYS WITH JACKY 0
PRESS TEST BUTTON TO EXIT

Bookkeeping – Page 5 – Data on Characters Used

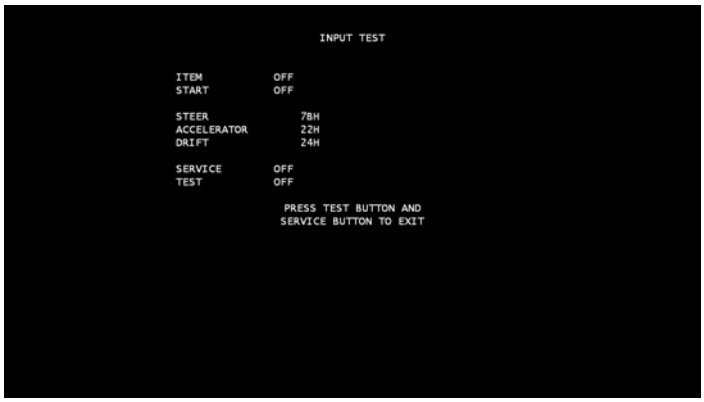
TOTAL PLAYS WITH SONIC – The total amount of times Sonic has been used.
TOTAL PLAYS WITH AIAI – The total amount of times AiAi has been used.
TOTAL PLAYS WITH AMIGO – The total amount of times Amigo has been used.
TOTAL PLAYS WITH AMY – The total amount of times Amy has been used.
TOTAL PLAYS WITH BEAT – The total amount of times Beat has been used.
TOTAL PLAYS WITH B.D. JOE – The total amount of times B.D. Joe has been used.
TOTAL PLAYS WITH BILLY HATCHER – The total amount of times Billy Hatcher has been used.
TOTAL PLAYS WITH EGGMAN – The total amount of times Eggman has been used.
TOTAL PLAYS WITH RYO (BIKE) – The total amount of times Ryo (Bike) has been used.
TOTAL PLAYS WITH RYO (FORKLIFT) – The total amount of times Ryo (Forklift) has been used.
TOTAL PLAYS WITH SHADOW – The total amount of times Shadow has been used.
TOTAL PLAYS WITH TAILS – The total amount of times Tails has been used.
TOTAL PLAYS WITH ULALA – The total amount of times Ulala has been used.
TOTAL PLAYS WITH JACKIE – The total amount of times Jacky & Akira has been used.

Press the Test Button to return to the Game Test Mode screen.

9-3-2 INPUT TEST

INPUT TEST

Select ‘Input Test’ from the Game Test Mode to display the Input Test menu.



This menu is used to test the System Inputs such as Steering, Pedals and Buttons. To implement the test, press each device that is listed and check the results on screen.

ITEM – ON = Pressed, OFF = Not Pressed.
START – ON = Pressed, OFF = Not Pressed.

STEERING – 0000 = Fully Left; FFH = Fully Right (Numbers are approximate, may vary on cabinets).

ACCELERATOR – 0000 = Pedal Fully Up; FFH = Pedal Fully Down (Numbers are approximate, may vary on cabinets).

DRIFT – 0000 = Pedal Fully Up; FFH = Pedal Fully Down (Numbers are approximate, may vary on cabinets).

SERVICE – ON = Pressed, OFF = Not Pressed.

TEST – ON = Pressed, OFF = Not Pressed.

Press the TEST and SERVICE button together to return to the Game Test Mode screen.

9-3-3 OUTPUT TEST

OUTPUT TEST

Select 'Output Test' from the Game Test Mode to display the Output Test Menu.

This test is used to check the System Output on the Lamps in the cabinet.

Use the SERVICE button to move the cursor to the desired test item.
Press the TEST button to test the selected item.

START – ON = Lamp ON, OFF = Lamp OFF.

RACE LEADER – ON = Lamp ON, OFF = Lamp OFF.

SEAT RED – ON = Lamp ON, OFF = Lamp OFF.

SEAT GREEN – ON = Lamp ON, OFF = Lamp OFF.

SEAT BLUE – ON = Lamp ON, OFF = Lamp OFF.

SIDE RED – ON = Lamp ON, OFF = Lamp OFF.

SIDE GREEN – ON = Lamp ON, OFF = Lamp OFF.

SIDE BLUE – ON = Lamp ON, OFF = Lamp OFF.

SUBWOOF/TICKET BOX RED – ON = Lamp ON, OFF = Lamp OFF.

SUBWOOF/TICKET BOX GREEN – ON = Lamp ON, OFF = Lamp OFF.

SUBWOOF/TICKET BOX BLUE – ON = Lamp ON, OFF = Lamp OFF.

ITEM RED – ON = Lamp ON, OFF = Lamp OFF.

ITEM GREEN – ON = Lamp ON, OFF = Lamp OFF.

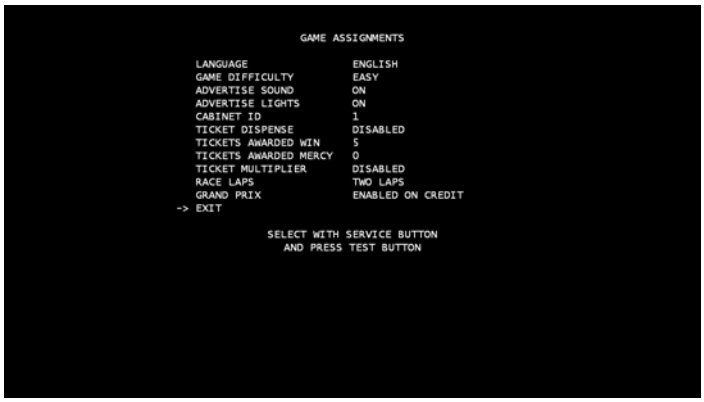
ITEM BLUE – ON = Lamp ON, OFF = Lamp OFF.

EXIT – Press the Test button to return to the Game Test Mode screen.

9-3-4 GAME ASSIGNMENTS

GAME ASSIGNMENTS

Select ‘Game Assignments’ from the Game Test Mode to display the Game Assignments Menu.



This test is used to change the game settings within the game.

Use the SERVICE button to move the cursor to the desired test item.
Press the TEST button to change the selected item.

LANGUAGE – Change the language that is used within the game itself. This can be switched between English, French, German, Spanish, Russian and Turkish.

GAME DIFFICULTY – Change the difficulty level of the game. It can be switched between EASY, NORMAL and HARD.

ADVERTISE SOUND – Set whether music is displayed during the Attract Sequence. It can be switched between ON and OFF.

ADVERTISE LIGHTS - Set between ON/OFF. When set to ON activates the CABINET LIGHTING FEATURE.

CABINET ID – Set the Cabinet ID.

TICKET DISPENSE – Set whether tickets are dispensed in the game. It can be switched between ENABLED and DISABLED.

TICKETS AWARDED WIN – Set the amount of tickets that are dispensed when the player wins.

TICKETS AWARDED MERCY – Set the amount of tickets that are dispensed when the player loses.

TICKET MULTIPLIER - Set whether the tickets dispensed are multiplied for a multiplayer race. It can be switched between ENABLED and DISABLED.

RACE LAPS – Set the number of laps that are used in a race. It can be switched between ONE, TWO or THREE laps.

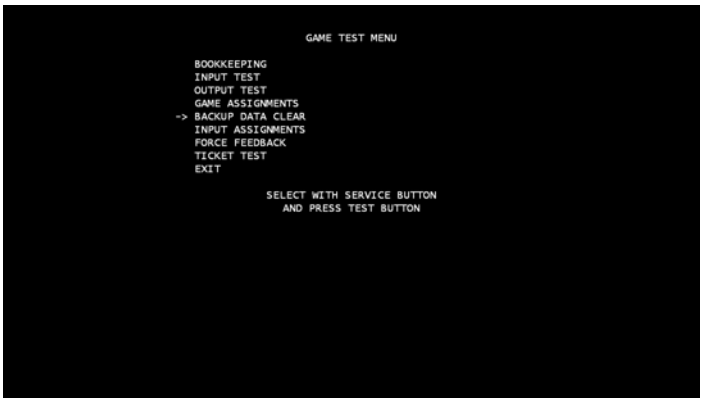
GRAND PRIX – Set whether the Grand Prix game mode can be used in Single Player. It can be switched between ENABLED and DISABLED.

EXIT – Press the Test Button to return to the Game Test Mode screen.

9-3-5 BACKUP DATA CLEAR

BACKUP DATA CLEAR

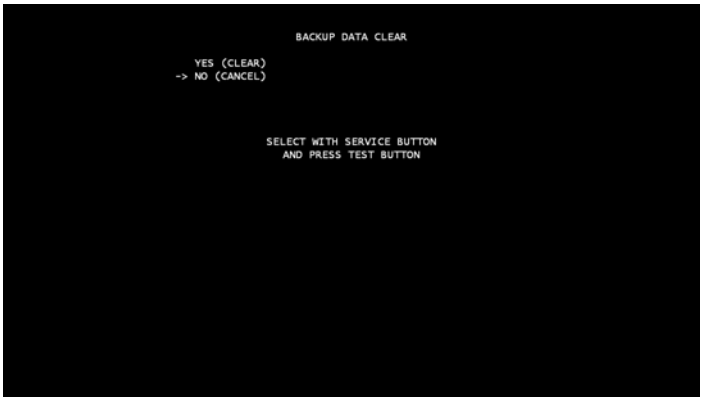
Select ‘Backup Data Clear’ from the Game Test Mode to display the Backup Data Clear Menu.



This test is used to clear the backup data.

Use the SERVICE button to move the cursor to the desired test item.
Use the TEST button to enter the selected item.

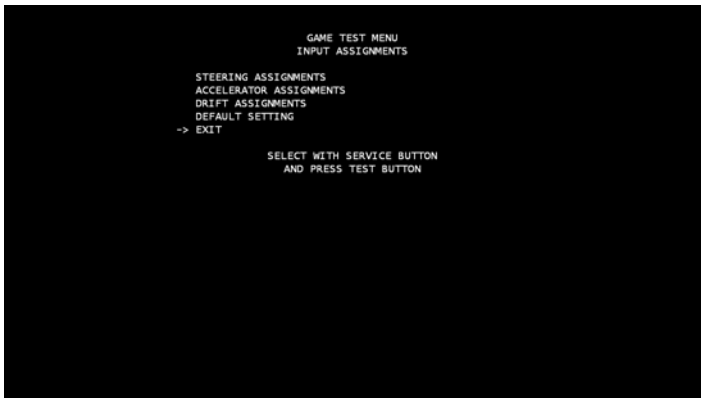
YES (CLEAR) – Clears the backup data. Once completed, press the Test Button to return to the Game Test Mode screen.
NO (CANCEL) – Does not clear the backup data. Selecting this will return to the Game Test Mode screen.



9-3-6 INPUT ASSIGNMENTS

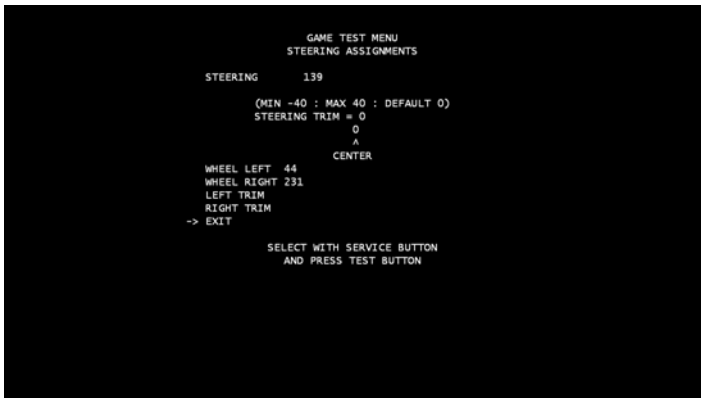
STEERING ASSIGNMENTS

Press the Test Button when Steering is highlighted to enter the Steering Calibration menu.



Use the SERVICE button to move the cursor to the desired test item.
Press the TEST button to enter the selected item.

This screen can be used to check the current calibration of the steering wheel, and the wheel can also be manually calibrated from here.



STEERING – Displays the number that indicates the centre of the wheel in the calibration settings.

WHEEL LEFT – Displays the current calibration setting for the steering wheel when it is full turned to the LEFT. Press the Test Button to manually calibrate this setting, by turning the steering wheel fully to the LEFT and then pressing the Test Button again to save this setting.

WHEEL RIGHT - Displays the current calibration setting for the steering wheel when it is full turned to the RIGHT. Press the Test Button to manually calibrate this setting, by turning the steering wheel fully to the RIGHT and then pressing the Test Button again to save this setting.

LEFT TRIM – Pressing the Test Button when this is highlighted will calibrate the wheel slightly to the LEFT with each button press.

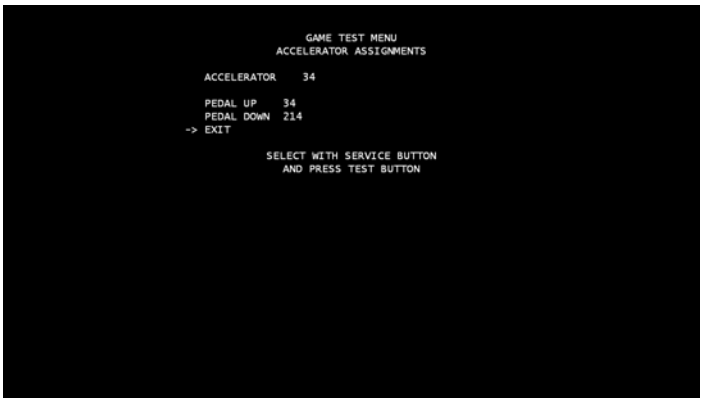
RIGHT TRIM – Pressing the Test Button when this is highlighted will calibrate the wheel slightly to the RIGHT with each button press.

EXIT – Press the Test Button to return to the Input Assignments menu.

ACCELERATOR PEDAL ASSIGNMENTS

Press the Test Button when Accelerator Pedal is highlighted to enter the Accelerator Pedal Calibration menu.

Use the SERVICE button to move the cursor to the desired test item.
Press the TEST button to enter the selected item.



This screen can be used to check the current calibration of the accelerator pedal and to manually calibrate the pedal.

ACCELERATOR – Display the current placement of the Accelerator Pedal. Pressing the Accelerator down and releasing the pedal will change this number.

PEDAL UP – Displays the current calibration setting for the Accelerator Pedal when it is not being pressed down. Pressing the Test Button will allow for manual calibration, pressing the Test Button again will save this setting.

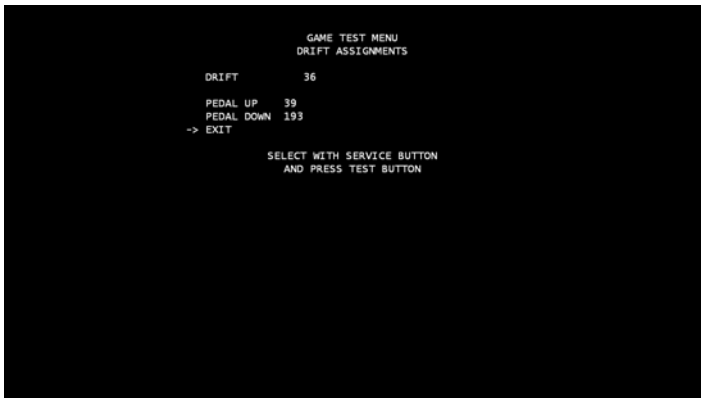
PEDAL DOWN – Displays the current calibration setting for the Accelerator Pedal when it is pressed fully down. Pressing the Test Button will allow for manual calibration, pressing the Test Button again will save this setting.

EXIT – Press the Test Button to return to the Input Assignments menu.

DRIFT PEDAL ASSIGNMENTS

Press the Test Button when Brake Pedal is highlighted to enter the Brake Pedal Calibration menu.

Use the SERVICE button to move the cursor to the desired test item.
Press the TEST button to enter the selected item.



This screen can be used to check the current calibration of the brake pedal and to manually calibrate the pedal.

DRIFT – Displays the current placement of the Brake Pedal. Pressing the Brake Pedal down and releasing the pedal will change this number.

PEDAL UP – Displays the current calibration setting for the Brake Pedal when it is not being pressed down. Pressing the Test Button will allow for manual calibration, pressing the Test Button again will save this setting.

PEDAL DOWN – Displays the current calibration setting for the Brake Pedal when it is pressed fully down. Pressing the Test Button will allow for manual calibration, pressing the Test Button again will save this setting.

EXIT – Press the Test Button to return to the Input Assignments menu.

DEFAULT SETTING

Press the Test Button when this is highlighted to return all current calibration settings back to their default settings.

EXIT

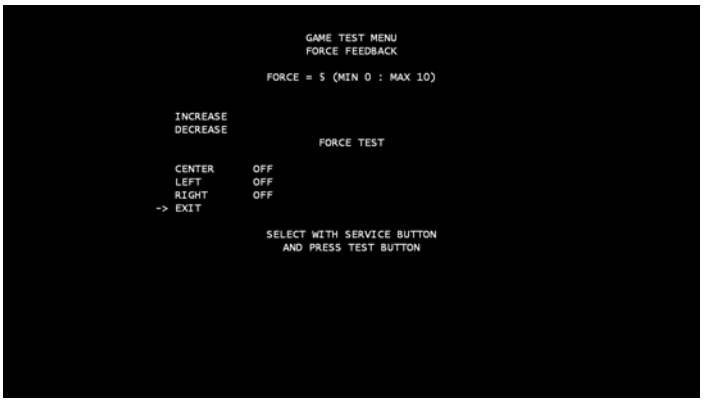
Press the Test Button to return to the Game Test Menu.

FORCE FEEDBACK

Select ‘Force Feedback’ from the Game Test Menu screen to display the Force Feedback menu.

This test is used to set the Force Feedback levels on the Steering Wheel. Upon initially entering the screen, the Steering Wheel will automatically begin a kickback initialisation.

Use the SERVICE button to move the cursor to the desired test item.
Press the TEST button to enter the selected item.



INCREASE –Increases the current Force Feedback setting on the Steering Wheel. The values range from 0-10 in strength with 0 being the weakest and 10 the strongest.

DECREASE – Decreases the current Force Feedback setting on the Steering Wheel. The values range from 0-10 in strength with 0 being the weakest and 10 the strongest.

CENTER – ON = Rotates the Steering Wheel to the centre position. OFF = Stops the Steering Wheel rotating to this position.

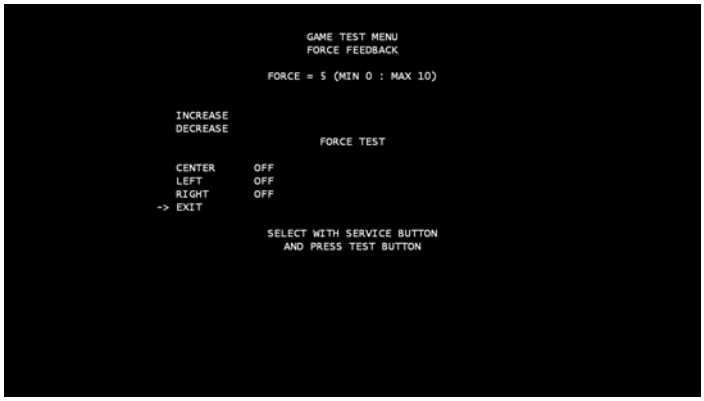
LEFT – ON = Rotates the Steering Wheel to the left position. OFF = Stops the Steering Wheel rotating to this position.

RIGHT – ON = Rotates the Steering Wheel to the right position. OFF = Stops the Steering Wheel rotating to this position.

EXIT – Press the Test Button to return to the Game Test Menu.

TICKET TEST

Select ‘Ticket Test’ from the Game Test Menu screen to display the Ticket Test menu.



This test is used to test the ticket dispenser unit, and to reimburse any tickets that are owed to players if the cabinet has run out of tickets during gameplay.

Use the SERVICE button to move the cursor to the desired test item.
Press the TEST button to enter the selected item.

OPTO INPUT – Flashes ON briefly whenever one ticket has been fully dispensed.

DETECT EMPTY – Switches to ON when the ticket dispensing machine has run out of tickets.

TICKET COUNT – States how many tickets have been dispensed in the game.

TICKETS OWED – States how many tickets are owed if the game ran out of tickets during gameplay.

MOTOR TEST – Tests the motor in the ticket dispense machine when switched to ON.

DISPENSE AMOUNT – States how many tickets will be dispensed when DISPENSE TEST is switched to ON. It can be changed between 1, 5 and 10.

DISPENSE TEST – Dispenses the amount of tickets displayed in the DISPENSE AMOUNT when switched to ON.

RESET – Resets the Ticket Count.

EXIT – Press the Test Button to return to the Game Test Menu.

9-4 SYSTEM INFORMATION

The SYSTEM INFORMATION screen displays system information.
The following information is displayed on this screen.

SYSTEM INFORMATION 1/2

The SYSTEM INFORMATION 1/2 screen displays system information.

■ SYSTEM INFORMATION 1/2 Screen

```
                SYSTEM INFORMATION 1/2

KEYCHIP
KEYCHIP ID          A72*-**********
MODEL TYPE          *
REGION              ***
MOTHER BOARD
MAIN ID             ****-**********
OS VERSION          *******
REGION              **
MEMORY SIZE         *****MB
STORAGE DEVICE
STORAGE SIZE        *GB
GRAPHIC DEVICE
DEVICE ID           ****:****

              PRESS TEST BUTTON TO NEXT
```

The following information is displayed on this screen.

● KEYCHIP

KEYCHIP ID	The serial number of the key chip.
MODEL TYPE	The model type.
REGION	The region setting of the key chip.

● MOTHER BOARD

MAIN ID	The serial number of the game board.
OS VERSION	The system's OS version.
REGION	The region setting of the game board.
MEMORY SIZE	The onboard memory size.

● STORAGE DEVICE

STORAGE SIZE	The total capacity of the program installer device.

● GRAPHIC DEVICE

DEVICE ID	The graphic device's ID.

Press the TEST Button to move to the SYSTEM INFORMATION 2/2.

SYSTEM INFORMATION 2/2

The SYSTEM INFORMATION 2/2 screen displays system information.
Press the TEST Button on the SYSTEM INFORMATION 2/2 screen to return to the SYSTEM TEST MODE screen.

■ SYSTEM INFORMATION 2/2 Screen

SYSTEM INFORMATION 2/2

VOLTAGE CPU CORE	+*.**[V]
VOLTAGE 3.3V	+*.**[V]
VOLTAGE 5V	+**.**[V]
VOLTAGE 12V	+*.**[V]
VOLTAGE BATTERY	*****
FAN CPU	****[rpm]
FAN CHASSIS	****[rpm]
TEMP CPU	**[C]
TEMP CHASSIS	**[C]

PRESS TEST BUTTON TO EXIT

The following information is displayed on this screen.

VOLTAGE CPU CORE	CPU core voltage
VOLTAGE 3.3V	3.3 V voltage
VOLTAGE 5V	5 V voltage
VOLTAGE 12V	12 V voltage
VOLTAGE BATTERY	Backup battery status
FAN CPU	CPU fan RPM
FAN CHASSIS	Case fan RPM
TEMP CPU	CPU temperature
TEMP CHASSIS	Case temperature

Press the TEST Button to return to the SYSTEM TEST MODE screen.

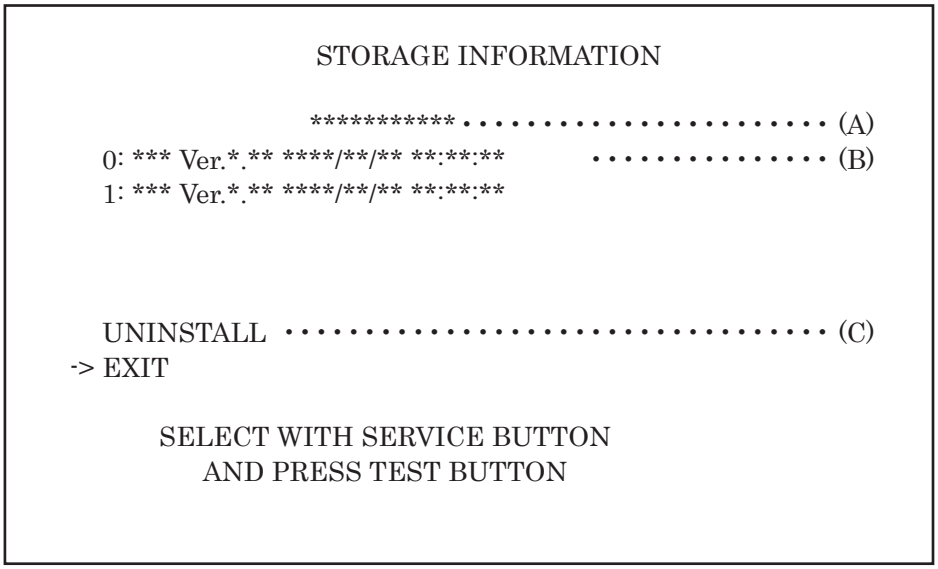
9-5 STORAGE INFORMATION

The STORAGE INFORMATION screen displays information on the game stored in the program installer device.
This screen is also used when uninstalling the game stored within the program installer device.

Until preparations to launch the game are complete, a now checking screen will be displayed and uninstall cannot be performed.
If the program installer device does not contain any game data, “GAME PROGRAM NOT READY” screen will be displayed and uninstall cannot be performed.

NOTE: If an uninstall is performed, an install will then have to performed before the game board can be used again. Do not needless perform an uninstall.

■ STORAGE INFORMATION Screen



The following information is displayed on this screen.

(A) GAME TITLE

(B) INSTALLED GAME PROGRAM LIST

- GAME ID
- VERSION
- DATE & TIME OF RELEASE

(C) UNINSTALL

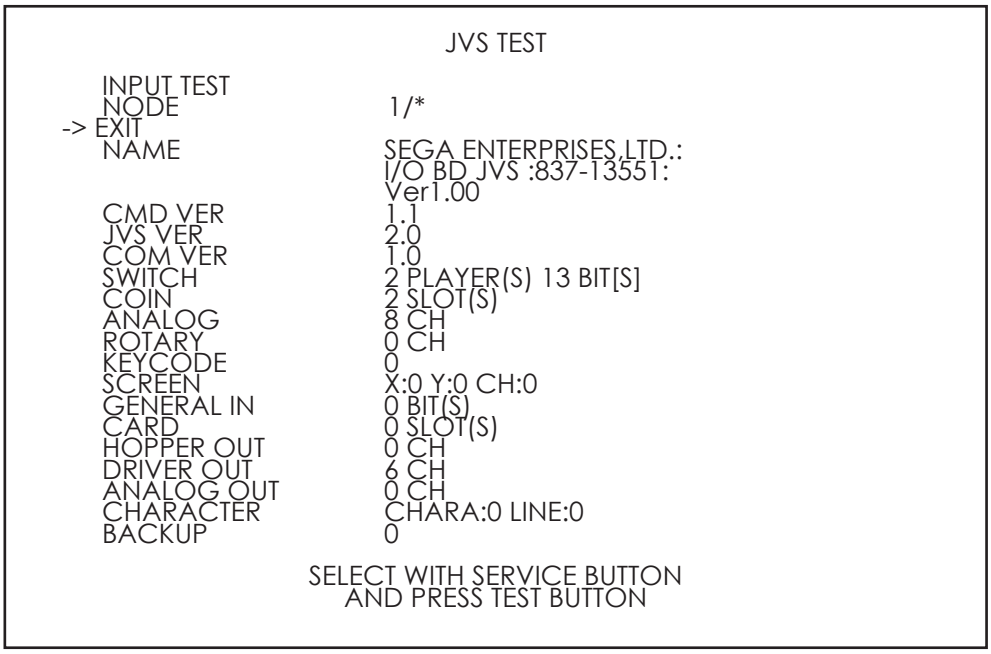
When preparations to launch the game are complete, it is possible to uninstall the game stored in the program installer device. Select UNINSTALL and then select “YES” to uninstall all game programs stored in the program installer device. Performing this operation will also mean that GAME TEST MODE will disappear from the SYSTEM TEST MODE screen.

Move the cursor to EXIT and press the TEST Button to return to the SYSTEM TEST MODE screen.

9-6 JVS TEST

The JVS TEST screen displays information on the connected JVS I/O boards.
Select INPUT TEST to display input data for the currently displayed JVS I/O board.
Select NODE to display information on the next NODE.
If no JVS I/O boards are connected, the message “NO JVS NODE” will be displayed.

■ JVS TEST Screen



NOTE: The screen display will vary depending on the I/O board that is connected.
The figure above is one example.

The following information is displayed on this screen.

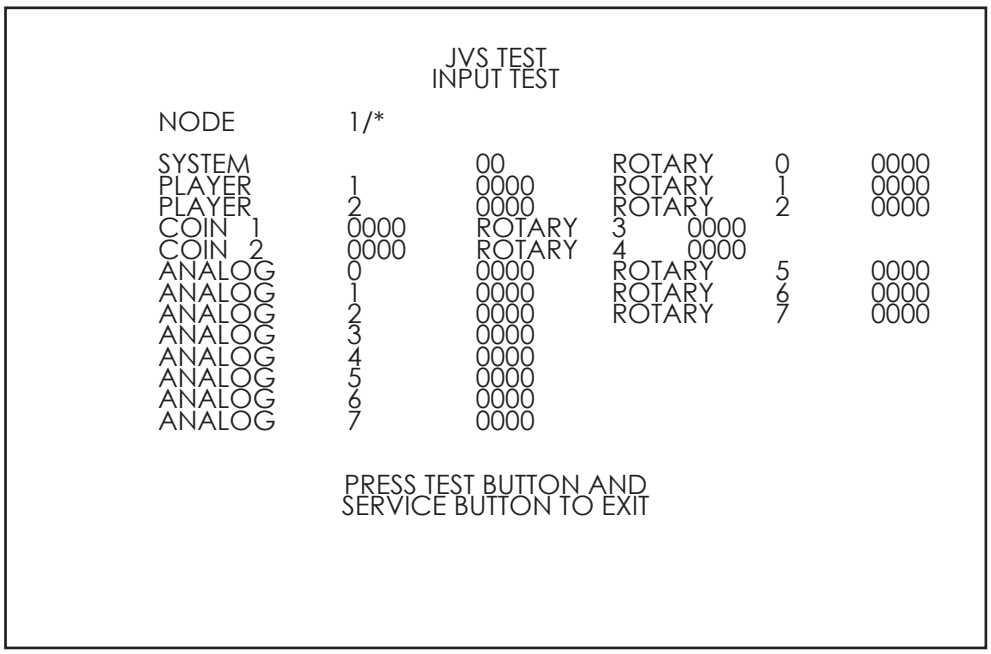
NODE	The currently displayed JVS I/O board number and the total number of connected JVS I/O boards
NAME	Name of the connected I/O board, etc.
CMD VER	Command format version
JVS VER	JVS standard version
COM VER	Communication version
SWITCH	Number of players and number of 1P switches
COIN	Number of coin slots
ANALOG	Number of analog channels
ROTARY	Number of rotary encoders
KEYCODE	Keycode input active/inactive
SCREEN	Screen position input (X axis, Y axis, number of channels)
GENERAL IN	Number of standard switches
CARD	Number of card slots
HOPPER OUT	Number of hoppers
DRIVER OUT	Number of standard output drivers
ANALOG OUT	Number of analog output channels
CHARACTER	Number of characters/lines displayed
BACKUP	Backup present/absent

Move the cursor to EXIT and press the TEST Button to return to the SYSTEM TEST MODE screen.

JVS INPUT TEST

Use the JVS INPUT TEST to test the JVS input.
The hexadecimal input information from the JVS I/O board will be displayed in real time.

■ JVS INPUT TEST Screen



NOTE: The screen display will vary depending on the I/O board that is connected.
The figure above is one example.

The following information is displayed on this screen.

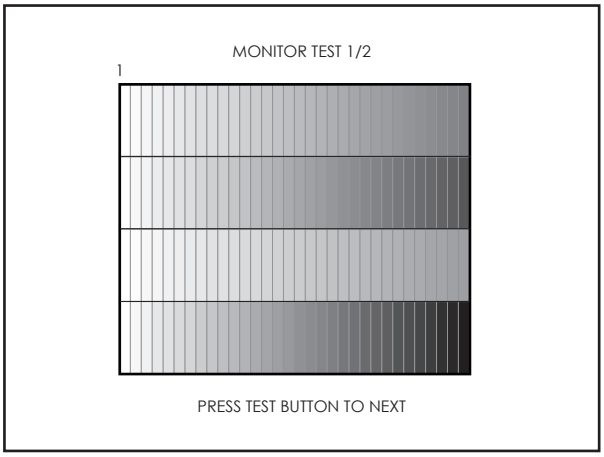
SYSTEM	System switch input data
PLAYER	Player number and player switch input data
COIN	Slot number and coin input data
ANALOG	Channel number and analog input data
ROTARY	Rotary number and rotary input data

Press the SERVICE and TEST Buttons simultaneously to return to the JVS TEST screen.

9-7 MONITOR TEST

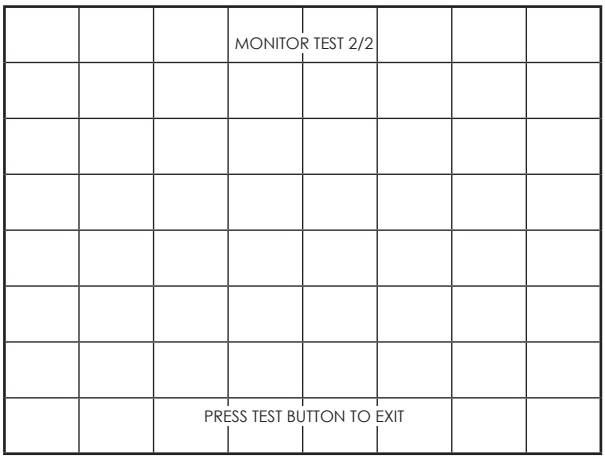
Use MONITOR TEST to check the output of the monitor.
Enter MONITOR TEST and the MONITOR TEST 1/2 Screen will be displayed.

■ **MONITOR TEST Screen 1/2**



Press TEST Button and the screen will change to the MONITOR TEST 2/2 Screen.

■ **MONITOR TEST Screen 2/2**



Press the TEST Button to return to the SYSTEM TEST MODE screen.

9-8 SPEAKER TEST

Use SPEAKER TEST to check the output of each speaker by having them each emit a test sound.

Select each speaker with the cursor and press the TEST Button to turn that speaker ON or OFF.
When set to ON a test sound will be emitted from that speaker.
It is possible to set multiple speakers to emit the test sound at the same time.
Depending on the cabinet used, some items will be displayed but no sound will be emitted.

■ SPEAKER TEST Screen

SPEAKER TEST

LEFT SPEAKER	OFF
RIGHT SPEAKER	OFF
REAR LEFT SPEAKER	OFF
REAR RIGHT SPEAKER	OFF
CENTER SPEAKER	OFF
WOOFER SPEAKER	OFF

-> EXIT

SELECT WITH SERVICE BUTTON
AND PRESS TEST BUTTON

Move the cursor to EXIT and press the TEST Button to return to the SYSTEM TEST MODE screen.

9-9 COIN ASSIGNMENTS

Use COIN ASSIGNMENTS to alter the credit settings.
The game will award players the number of credits determined here.
Settings will only be saved if they have been changed.

■ COIN ASSIGNMENTS Screen

```
                COIN ASSIGNMENTS

    COIN CHUTE TYPE  COMMON •••••••••••••••••••••• (A)
    SERVICE TYPE     COMMON •••••••••••••••••••••• (B)
    COIN CHUTE #1 COIN TO CREDIT RATE •••••••••••••• (C-1)
      1 COIN(S) COUNT AS 1 CREDIT(S)
    COIN CHUTE #2 COIN TO CREDIT RATE •••••••••••••• (C-2)
      1 COIN(S) COUNT AS 1 CREDIT(S)
    DETAIL SETTING •••••••••••••••••••••••••••••••• (D)
    GAME COST SETTING ••••••••••••••••••••••••••••• (H)
-> EXIT •••••••••••••••••••••••••••••••••••••••••• (I)


          SELECT WITH SERVICE BUTTON
            AND PRESS TEST BUTTON
```

[COIN CHUTE TYPE: COMMON]

The following information is displayed on this screen.

(A) COIN CHUTE TYPE

COMMON	Allow all credits to be used by all players.
INDIVIDUAL	Treat each player's credits individually.

(B) SERVICE TYPE (Service Button Type)

COMMON	When the COIN CHUTE TYPE is set to COMMON, the number of credits available to all players will increase by 1.
	When the COIN CHUTE TYPE is set to INDIVIDUAL, each player's credits will increase by 1.
INDIVIDUAL	When the COIN CHUTE TYPE is set to COMMON, the number of credits available to all players will increase by 1.
	When the COIN CHUTE TYPE is set to INDIVIDUAL, the player corresponding to the SERVICE Button's credits will increase by 1.

(C-1) COIN CHUTE #1 COIN TO CREDIT RATE (Coin and credit conversion rate 1)

1 COIN(S) COUNT AS 1 CREDIT(S)	1 coin counts as 1 credit
2 COIN(S) COUNT AS 1 CREDIT(S)	2 coins count as 1 credit
3 COIN(S) COUNT AS 1 CREDIT(S)	3 coins count as 1 credit
4 COIN(S) COUNT AS 1 CREDIT(S)	4 coins count as 1 credit
5 COIN(S) COUNT AS 1 CREDIT(S)	5 coins count as 1 credit
1 COIN(S) COUNT AS 2 CREDIT(S)	1 coin counts as 2 credits
1 COIN(S) COUNT AS 3 CREDIT(S)	1 coin counts as 3 credits
1 COIN(S) COUNT AS 4 CREDIT(S)	1 coin counts as 4 credits
1 COIN(S) COUNT AS 5 CREDIT(S)	1 coin counts as 5 credits
FREE PLAY	Free play (no coins required)
DETAIL SETTING	More detailed settings

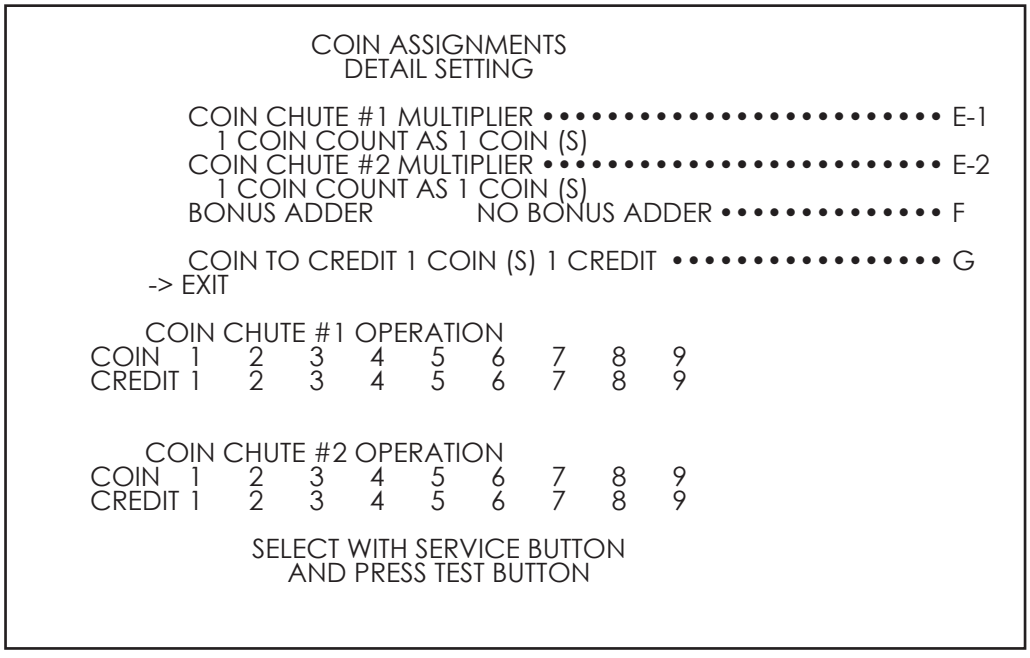
(C-2) COIN CHUTE #2 COIN TO CREDIT RATE (Coin and credit conversion rate 2)

When (A) COIN CHUTE TYPE is set to "COMMON," the detail settings for this item are restricted to the settings listed in (C-1).

(D) DETAIL SETTING

The COIN ASSIGNMENTS DETAIL SETTING screen allows more detailed settings that cannot be performed on (C) the COIN TO CREDIT RATE screen to be performed.

■ **DETAIL SETTING Screen**


COIN ASSIGNMENTS
DETAIL SETTING
COIN CHUTE #1 MULTIPLIER •••••••••••••••••••••••••• E-1
1 COIN COUNT AS 1 COIN (S)
COIN CHUTE #2 MULTIPLIER •••••••••••••••••••••••••• E-2
1 COIN COUNT AS 1 COIN (S)
BONUS ADDER NO BONUS ADDER •••••••••••••• F
COIN TO CREDIT 1 COIN (S) 1 CREDIT •••••••••••••••••• G
-> EXIT
COIN CHUTE #1 OPERATION
COIN 1 2 3 4 5 6 7 8 9
CREDIT 1 2 3 4 5 6 7 8 9
COIN CHUTE #2 OPERATION
COIN 1 2 3 4 5 6 7 8 9
CREDIT 1 2 3 4 5 6 7 8 9
SELECT WITH SERVICE BUTTON
AND PRESS TEST BUTTON

[COIN CHUTE TYPE: COMMON]

The following information is displayed on this screen.

(E-1) COIN CHUTE #1 MULTIPLIER

Coin conversion rate for #1. (How many coins 1 inserted coin counts for)

(E-2) COIN CHUTE #2 MULTIPLIER

Coin conversion rate for #2. (How many coins 1 inserted coin counts for)

NOTE: When (A) COIN CHUTE TYPE is set to "COMMON," COIN CHUTE #1 and COIN CHUTE #2 can be set separately.

(F) BONUS ADDER

Use of a bonus coin.

NO BONUS ADDER	No bonus coin given
2 COINS GIVE 1 EXTRA COIN	2 coins inserted successively award 1 bonus coin
3 COINS GIVE 1 EXTRA COIN	3 coins inserted successively award 1 bonus coin
4 COINS GIVE 1 EXTRA COIN	4 coins inserted successively award 1 bonus coin
5 COINS GIVE 1 EXTRA COIN	5 coins inserted successively award 1 bonus coin
6 COINS GIVE 1 EXTRA COIN	6 coins inserted successively award 1 bonus coin
7 COINS GIVE 1 EXTRA COIN	7 coins inserted successively award 1 bonus coin
8 COINS GIVE 1 EXTRA COIN	8 coins inserted successively award 1 bonus coin
9 COINS GIVE 1 EXTRA COIN	9 coins inserted successively award 1 bonus coin

(G) COIN TO CREDIT

The number of coins to number of credits conversion rate.

Move the cursor to EXIT and press the TEST Button to return to the COIN ASSIGNMENTS screen.

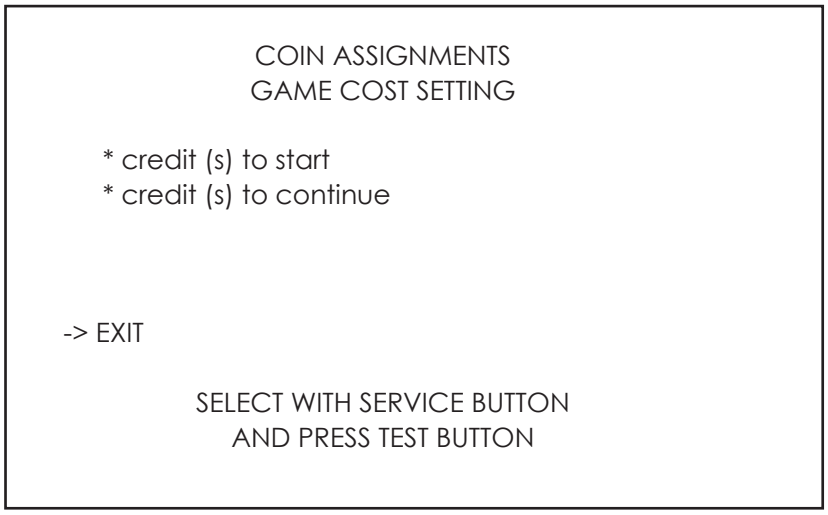
(H) GAME COST SETTING

Use the COIN ASSIGNMENTS GAME COST SETTING screen to set the cost (number of required credits) that the game program will use to determine if there are enough credits to play the game.

A total of 8 game costs can be defined. The game cost is defined by the BOOT ID, and when the second boot recognizes the game, the game cost defined by the BOOT ID will be displayed.

If the game is not recognized, the default game cost will be displayed.

■ GAME COST SETTING Screen



NOTE: The screen display will vary depending on the game that is installed. The figure above is one example.

Move the cursor to EXIT and press the TEST Button to return to the COIN ASSIGNMENTS screen.

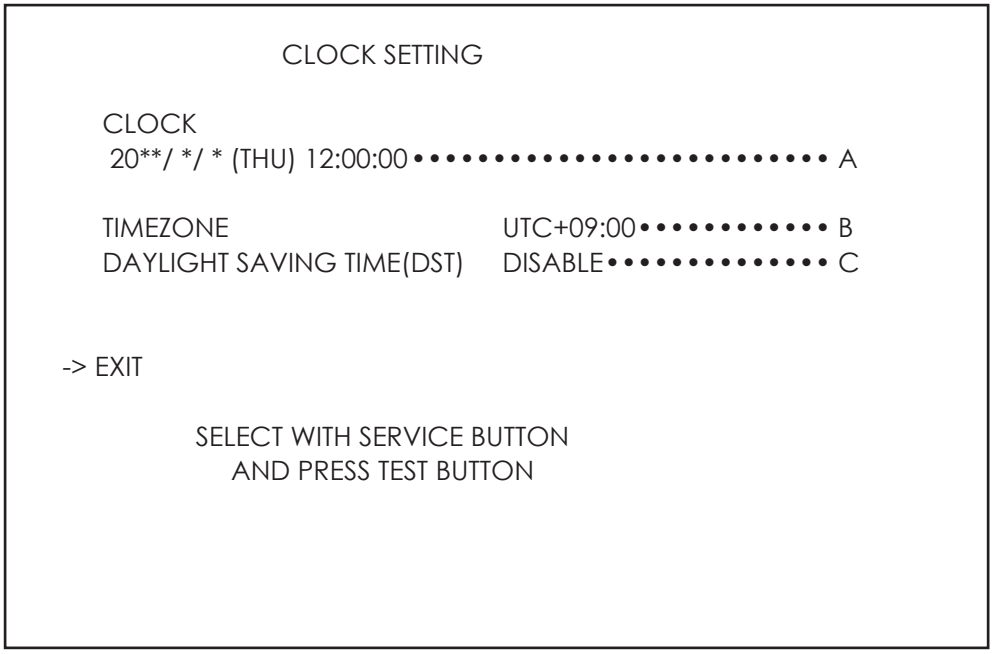
(I) EXIT

Move the cursor to EXIT and press the TEST Button to return to the SYSTEM TEST MODE screen.

9-10 CLOCK SETTING

Use CLOCK SETTING to set the date and time.
Use the SERVICE Button to move the cursor to the category that you wish to change and press the TEST Button to increase that value. Holding the TEST Button down will make the value continuously increase.

■ **CLOCK SETTING Screen**



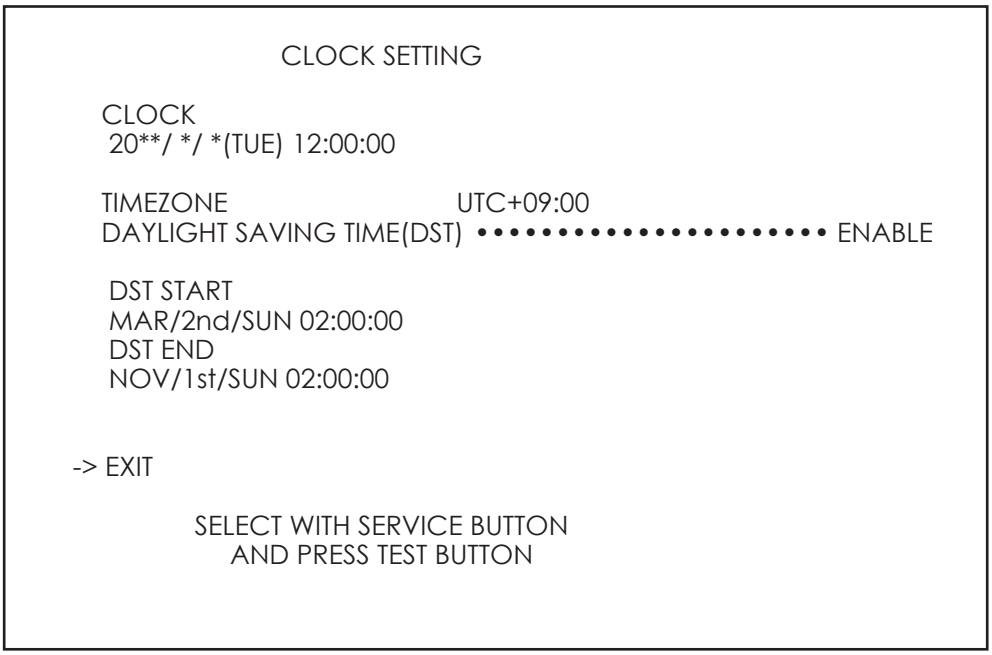
[DAYLIGHT SAVING TIME (DST): DISABLE]

(A) CLOCK

Displays the current time and date.
The time and date can be changed by selecting CLOCK.
Use the SERVICE Button to move the underline to the item you want to change and press the TEST Button to change the value.
If you select EXIT and press the TEST Button after changing the setting, you will be asked whether you really want to make the changes.
Select "YES" to change the value or "NO" to leave it as it is, and press the TEST Button.
Games connected to the network will adjust the time automatically.
Exercise caution as the game may become unplayable if the time is changed.

(B) TIMEZONE

Displays the time zone setting. If the machine is not available for ALL.Net, it is not displayed.



[DAYLIGHT SAVING TIME (DST): ENABLE]

(C) DAYLIGHT SAVING TIME (DST)

Displays the daylight saving time setting.

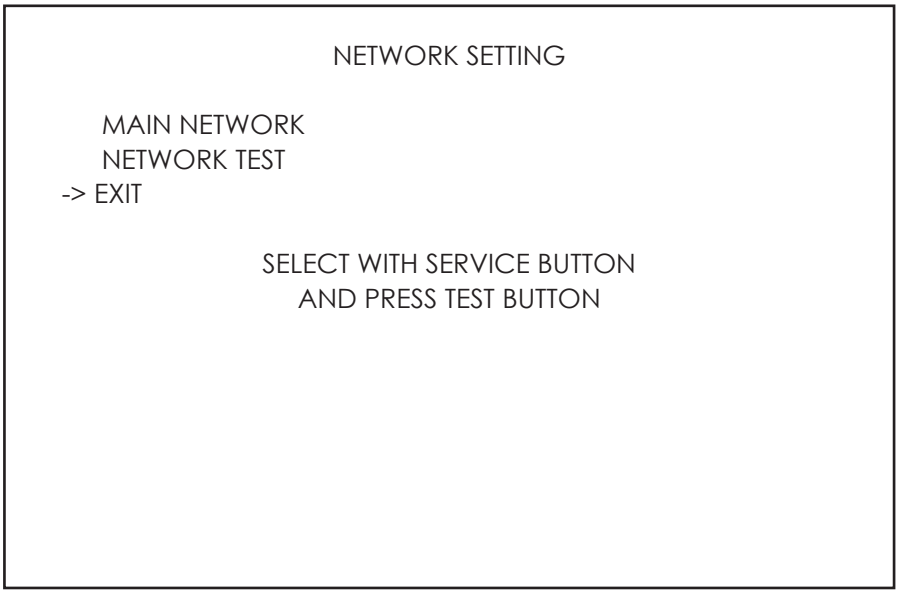
If set to ENABLE, you can specify when to start and end daylight saving time.

Move the cursor to EXIT and press the TEST Button to return to the SYSTEM TEST MODE screen.

9-11 NETWORK SETTING

Use NETWORK SETTING to determine network settings or to test the network.
There is no need to alter these settings for a game that does not use a network.

■ **NETWORK SETTING (Setting Menu) Screen**



The following information is displayed on this screen.

MAIN NETWORK	Performs a network setting.
NETWORK TEST	Performs a network test.

Move the cursor to EXIT and press the TEST Button to return to the SYSTEM TEST MODE screen.

When using a hub for connecting a number of cabinets in a network, please change the IP addresses accordingly.

IP (192.168.88.XX) XX indicating the cabinet number. i.e. 192.168.88.**01** for cabinet 1. 192.168.88.**02** for cabinet 2 and so on up to a total of 8 cabinets.

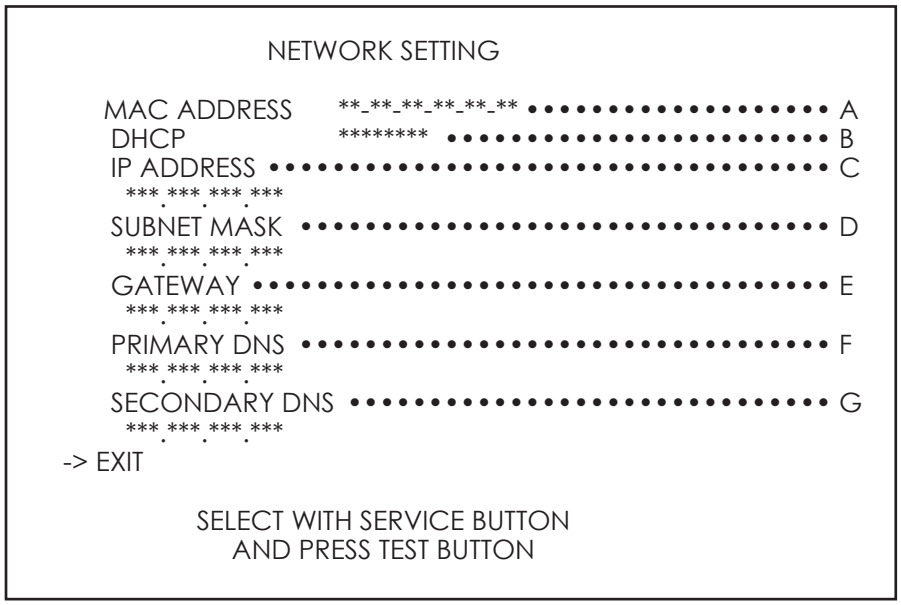
IMPORTANT

- **Do not connect any other device into the same hub as the linked cabinet. Doing so will cause networking problems between cabinets**

MAIN NETWORK

Select MAIN NETWORK on the NETWORK SETTING (Setting Menu) and the following screen will be displayed.

■ **NETWORK SETTING (Network Setting) Screen**



The following information is displayed on this screen.

(A) MAC ADDRESS
The individual ID number assigned to each device using the Ethernet.

(B) DHCP
Set automatic acquisition of network settings.
ENABLE: Acquire network settings automatically. (use when connected to a router)
DISABLE: Input network settings manually. (use when connected to a Hub and/or fixed IP address)

(C) IP ADDRESS
A setting required for the network.
After setting the numbers, select SET and press the TEST Button to save the setting.
When DHCP is set to ENABLE, this item cannot be selected.

(D) SUBNET MASK
A setting required for the network.
After setting the numbers, select SET and press the TEST Button to save the setting.
When DHCP is set to ENABLE, this item cannot be selected.

(E) GATEWAY
A setting required for the network. See the manual supplied with each game software for the correct setting.
After setting the numbers, select SET and press the TEST Button to save the setting.
When DHCP is set to ENABLE, this item cannot be selected.

(F) PRIMARY DNS
A setting required for the network. See the manual supplied with each game software for the correct setting.
After setting the numbers, select SET and press the TEST Button to save the setting.
When DHCP is set to ENABLE, this item cannot be selected.

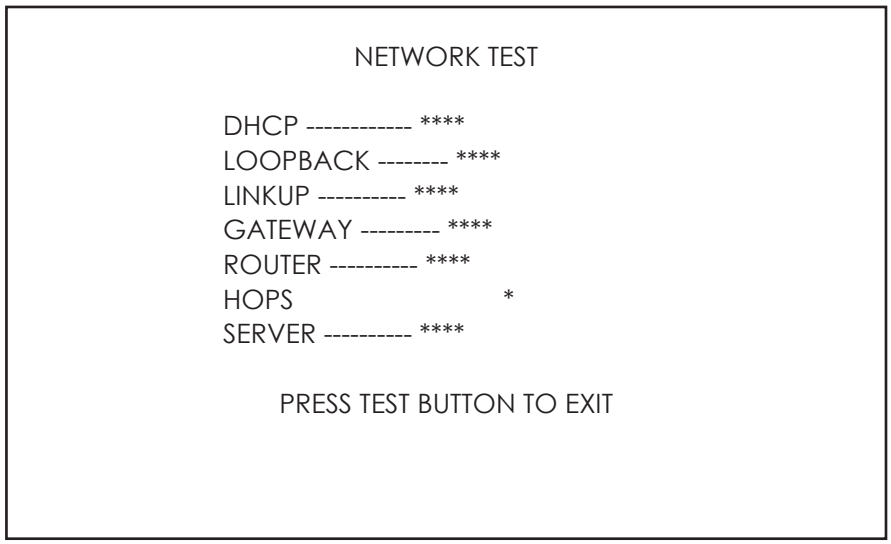
(G) SECONDARY DNS
A setting required for the network. See the manual supplied with each game software for the correct setting.
After setting the numbers, select SET and press the TEST Button to save the setting.
When DHCP is set to ENABLE, this item cannot be selected.

Move the cursor to EXIT and press the TEST Button to return to the NETWORK SETTING (Setting Menu) screen.

NETWORK TEST

Check the network connection.
The test will begin as soon as this screen is displayed. The machine cannot be operated until the test is finished.

■ **NETWORK TEST Screen**



The following information is displayed on this screen.

DHCP	Status of communication settings acquisition when DHCP is set to ENABLE.
LOOPBACK	RINGWIDE network function operation status.
LINKUP	LAN cable connection status.
GATEWAY	Status of connection with title router, etc.
ROUTER	Status of connection with ALL.Net router.
HOPS	Number of router connections to ALL.Net router.
SERVER	Status of connection with ALL.Net server.

The status of determining items is as listed in the table below:

CHECK	Indicates that the item is currently being checked.
GOOD	Indicates that the item is functioning normally.
BAD	Indicates that the item is not functioning normally. (Damaged, incorrect settings, etc.)
N/A	Indicates that the item has not been checked. (Prerequisites have not been met, etc.)

Press the TEST Button to return to the NETWORK SETTING (Setting Menu) screen.

9-12 EXIT

Exit the Test Mode.

10 CONTROLLER UNIT(S)

⚠WARNING

- When working with the product, be sure to turn the power off. Working with the power on may cause an electric shock or short circuit.
- Be careful not to damage the wires. Damaged wires may cause an electric shock, short circuit or present a risk of fire.
- Exercise due caution in performing soldering work. If soldering iron is handled carelessly, there could be fires or burns.

⚠CAUTION

- When fastening plastic parts, be careful not to tighten screws or nuts excessively. If these are tightened to excess, parts could be damaged, resulting in injuries from fragments, etc.
- After the unit has been disassembled and reassembled again, check carefully that the unit has been reassembled correctly.
- Be sure to inspect the outer covers on both gear and hand brake units.
- Assemble so that there is no gap between the L and R covers. If there is a gap or rattling, the players could get fingers or hands caught, resulting in injury.

STOP IMPORTANT

- Once the product has been disassembled, use slack preventive agent (product No. : 090-0012-N). Coat screws with suitable amounts of this agent and then tighten them. If this agent is not used, the product might start rattling or come apart.
- Use the slack preventive agent prescribed in these instructions. If any other agent is used, there could be chemical changes that inhibit the use of screws and part surfaces could be damaged.
- Be careful not to damage or lose small parts or screws.
- When a part has been replaced, be sure to always make adjustments and check conditions in Test Mode.

IMPORTANT

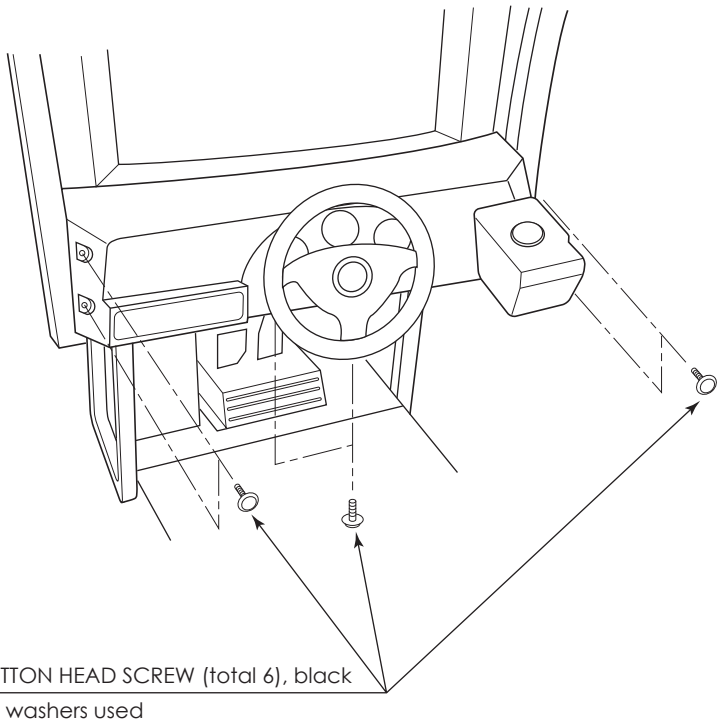
Be sure to perform volume's move value setting in the INPUT ASSIGNMENTS in the Game Test Mode after replacing or adjusting the Volume.

In cases the Steering operability is poor and the adjustment of VOLUME SETTING in the TEST mode has no effect, the causes may be the volume gear's mesh failure and or volume malfunctioning.
Adjust volume gear mesh or replace the volume as per the following procedure.
In this product, when the steering wheel is moved fully left/right, if the volume shaft is rotating within the movable range, the volume is not feared to be damaged.
Secure the volume in the manner the volume shaft is oriented as shown and the gears are appropriately engaged when the steering wheel is in the centering position allowing the car to go straight forward.

10-1 REMOVING THE CONTROL PANEL

A 5 mm hexagonal wrench is required for the following procedure.

1. Turn off the power.
2. Remove the 4 hexagon socket button head screws from both sides of the Control Panel's front part.
3. Remove the 2 hexagon socket button head screws from underside of the Control Panel.
4. Wiring connectors are connected inside the Control Panel. Be careful not to damage any of the wiring, and carefully pull out the Control Panel.
5. Unplug the wiring connectors.



HEXAGON SOCKET BUTTON HEAD SCREW (total 6), black
M8x30, flat and spring washers used

10-1 FIG. 01

10-2 ADJUSTING/REPLACING THE VOLUME

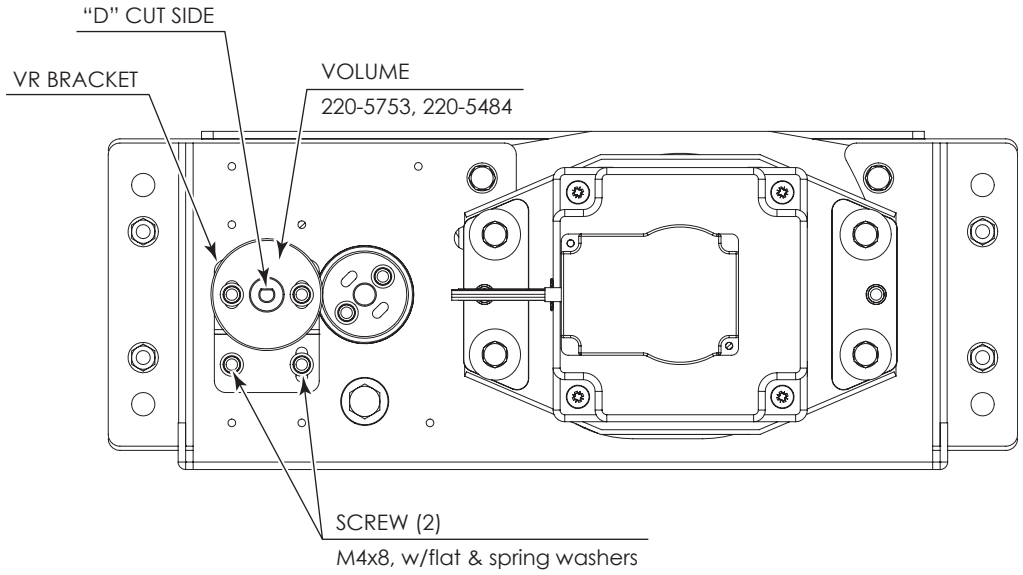
ADJUSTMENT PROCEDURE

1. Loosen the 2 screws that secure the VR Bracket and move the VR Bracket to adjust the angle and condition of the gear alignment.

2. Keeping the handle straight, align the gears so that the direction of the D Cut side of the V.R. Shaft matches that shown in the diagram.

3. Tighten the 2 screws and secure the VR Bracket.

4. Check to make sure the value on the Input Test screen is within the range 80H ± 8H when the steering unit is in the straight position.

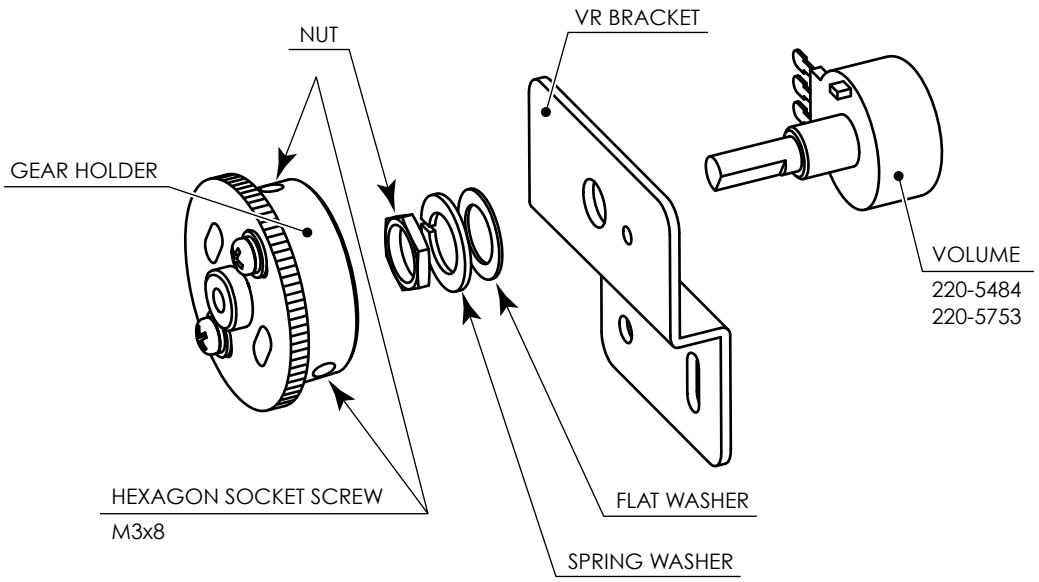


10-2 FIG. 01

REPLACEMENT PROCEDURE

This procedure requires the following tools: Phillips screwdriver for the M4 screws, 1.5 mm hexagonal wrench, 11-12 mm monkey wrench, nipper, cutter, wire stripper, soldering iron, industrial dryer and heat-shrinkable tube.

1. Remove the connectors.
2. Remove the 2 screws securing the VR Bracket and remove the entire Bracket and V.R.
3. Loosen the 2 hexagon socket screws on the Gear Holder and remove the Gear Holder.
4. Remove the nut securing the VR Bracket, then separate the Volume from the VR Bracket and replace it.
5. Check to make sure the value on the Input Test screen is within the range 80H ± 8H when the steering unit is in the straight position.



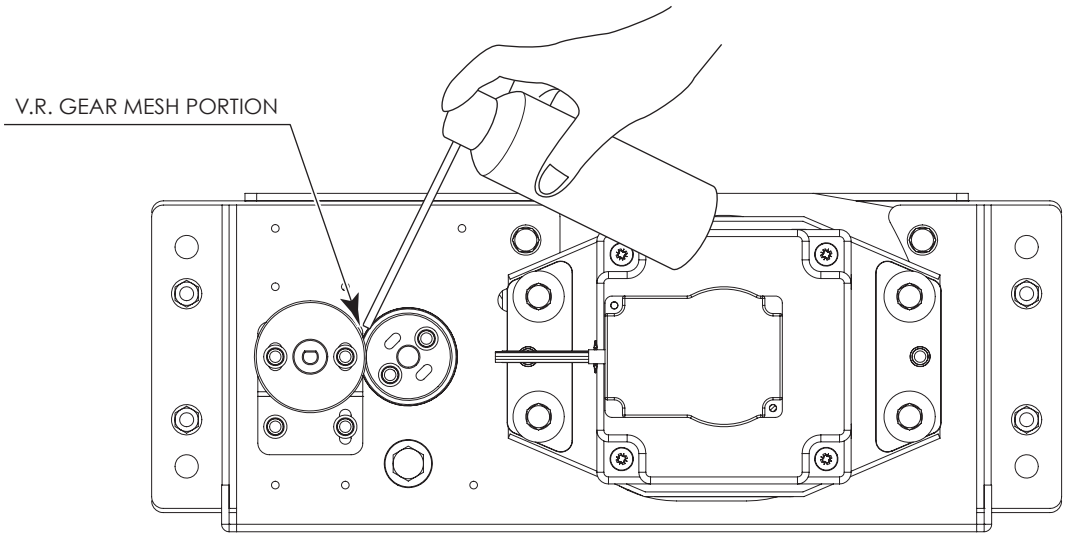
10-2 FIG. 02

10-3 GREASING

IMPORTANT

- **Be sure to use the designated grease. Using undesignated grease can cause parts damage.**
- **Do not apply grease to locations other than as specified. Doing so may create a risk of operational problems and deterioration of parts.**
- **The designated periods for greasing serve only as a guide. Whenever there are squeaks or other anomalies, apply grease at designated locations.**

Use spray grease once every three months to grease up the gear mesh portion of the constituent parts.
Use "Grease Mate" (part number 090-0066) for the spray grease.



10-3 FIG. 01

10-4 START BUTTON ASSY

⚠ WARNING

- **When working with the product, be sure to turn the power off. Working with the power on may cause an electric shock or short circuit.**
- **Be careful not to damage the wires. Damaged wires may cause an electric shock, short circuit or present a risk of fire.**

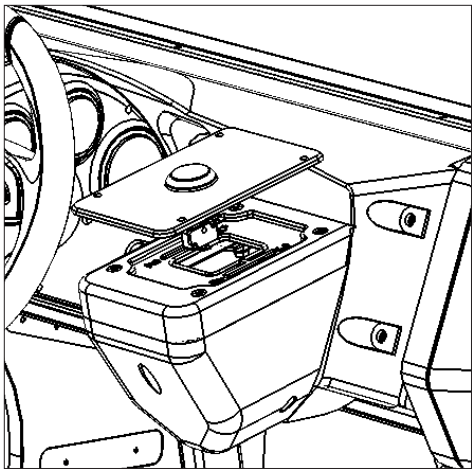
If the start switch input does not function correctly on the INPUT TEST screen, the switch may need to be replaced. To carry out this maintenance, you must first remove the start button unit.
For this task, you will need a tamper proof wrench (for M4 screws),

Start Button Plate Removal

1 Turn the power OFF

2 Using the M4 tamper proof wrench remove the four tamper proof screws, 1 located in each of the corner of the Start Button Plate.

3 Gently lift out the Button Plate to reveal the wiring harness, locate the plug connecting it to the Control panel and remove the connection. The Button and Plate can now be extracted.



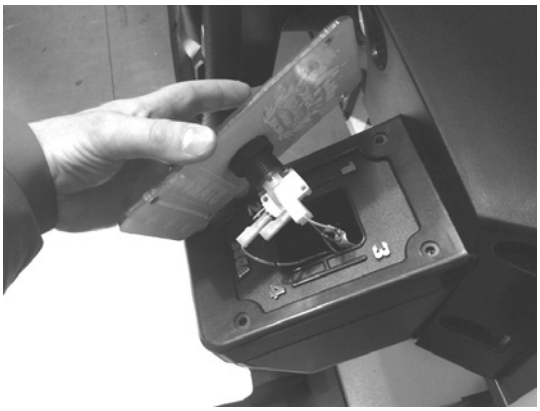
4 When re-installing the Start Button and Plate follow the above instructions in the reverse order. At this time ensure that the orientation of the Button Plate is correct before securing.

5 After the Re-installation of the Button Plate and Start Button, be sure to check the INPUT TEST in the Game Test mode to determine it's correct operation.

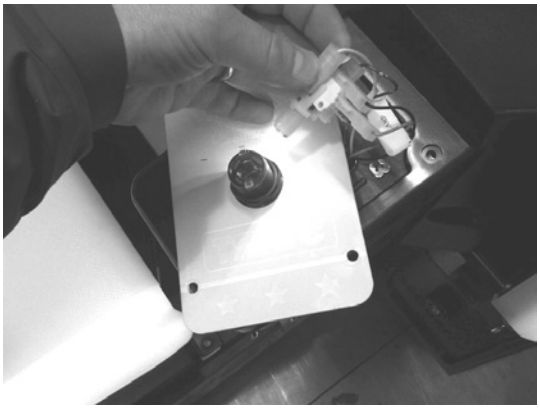
Strart Button/switch replacement

Follow the instructions below to change the microswitch.

1 Unscrew and remove the START BUTTON PLATE as explained on the previous page.



2 Remove the microswitch by unclipping it from the Lamp Housing



3 Remove the wiring harness from the old microswitch and re-attach it to the replacement switch in the same manner

4 Clip the Microswich back into the lamp house making sure that it is fully in place.

5 The unit is now ready to be refitted into the Control Panel, to do this follow the instructions in reverse order

10-5 BRAKE AND ACCELERATOR UNIT

⚠ WARNING

When working with the product, be sure to turn the power off. Working with the power on may cause an electric shock or short circuit. However, the unit must be switched on when using test mode. Do not touch any part of the unit except those areas indicated.

Be careful not to damage the wires. Damaged wires may cause an electric shock, short circuit or present a risk of fire.

This work should be performed by site maintenance personnel or other skilled professionals. Work performed by non-technical personnel can cause a severe accident such as an electric shock.

To prevent accidents while working or while operating the product after it has been installed, be sure not to conduct any procedures other than those given in this manual. There are cases in which procedures not covered in this manual require special tools and skills.

If a procedure not given in this manual is required, request service from the office given in this manual or from the point of purchase.

STOP IMPORTANT

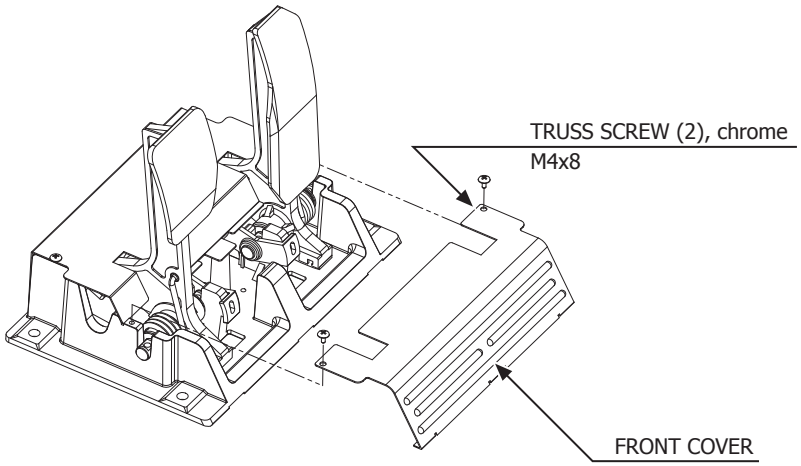
Be sure to perform volume's move value setting in the Input Test in the Game Test Mode after replacing or adjusting the Volume.

If the accelerator or brake pedals are not functioning correctly, you may need to adjust the positioning of the volume or replace it with a new one. In addition, you should apply grease to the gear contacts and spring parts once every three months.

When the accelerator pedal is not being pressed, the accelerator volume should have a value of 30H or less. When the pedal is being pressed, the value should be C0H or greater.
When the brake pedal is not being pressed, the value should be 35H or less. When the pedal is being pressed, it should be D0H or more. You can view these values in test mode. Note that the unit must be switched on to use test mode. Do not touch any part of the unit except those areas indicated when the unit is switch on, as there is a danger of electrical shock or short-circuit.
For this task, you will need a Phillips-head screwdriver (for M4, M5 screws).

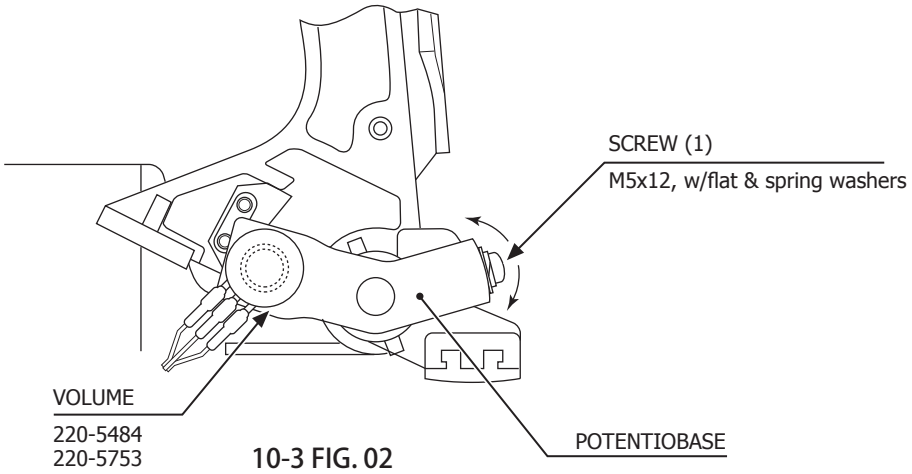
Adjusting Procedure

1 **On the accelerator and brake pedal unit, remove the two truss screws and lift off the front cover.**



10-3 FIG. 01

2 Loosen the single screw that secures the potentiobase, and move the base to adjust the volume values.



10-3 FIG. 02

3 Secure the potentiobase.

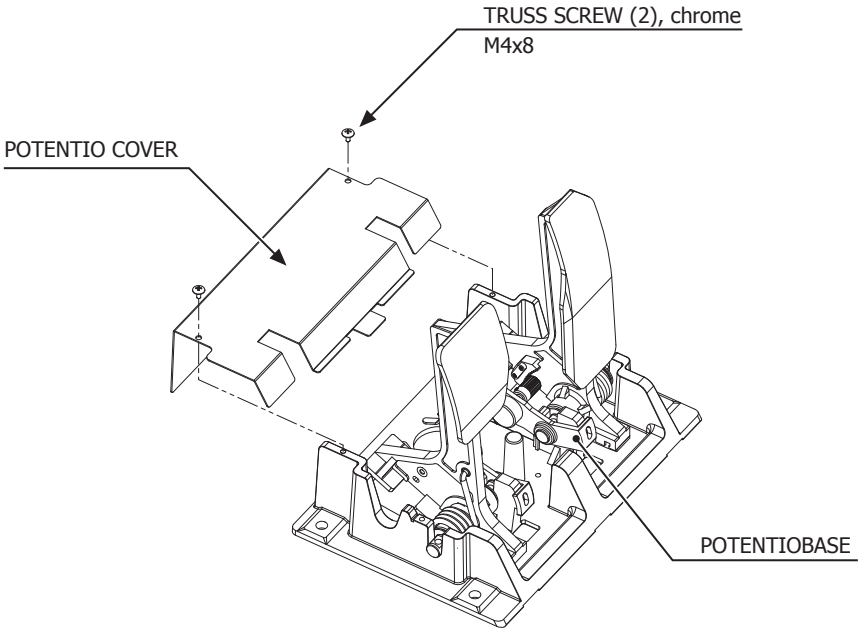
4 Configure the volume values on the INPUT ASSIGNMENTS screen in Game Test Mode.

5 Check that the values change smoothly in response to pedal input.

Replacing the Volume

1 Switch off the unit.

2 Remove the two screws and lift off the potentio cover.



10-3-1 FIG. 01

3 Detach the connector from the volume to be replaced.

4 Remove the single screw that secures the potentiobase. (see 10-31 FIG. 02).

5 Without detaching the volume, remove the potentiobase. (see 10-31 FIG. 03).

6 Remove the base and gear from the volume, and replace it.

7 After replacement, configure the volume as described above in “Adjusting Procedure”

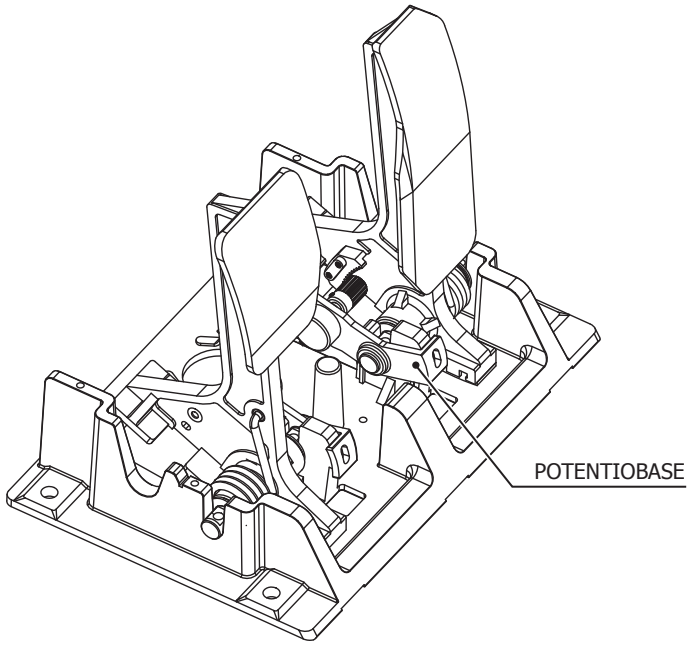
8 When you have finished, check that the values change smoothly in response to pedal input.

Adjusting the Volume Pot

IMPORTANT

Use only the specified grease. Using any other kind of grease can result in damage to parts.

Once every three months, you should apply grease to the gear contacts and spring parts.
Use Grease Mate-brand spray grease (Part No.: 090-0066).



10-3-2 FIG. 01

11 GRAPHICS DISPLAY

11-1 SAFETY PRECAUTIONS WHEN HANDLING THE MONITOR

⚠ WARNING

Responding to breakdown or abnormality

- **If smoke or a strange odor appears, immediately unplug the power cable from the power source.**

  Continuing to use the product may cause a fire or an electric shock. Ensure that smoke is no longer emitted, and contact the point of purchase.

- **If nothing displays on the screen, immediately unplug the power cable from the power source.**

  Continuing to use the product may cause a fire or an electric shock. Contact the point of purchase and request an inspection.

- **If water or a foreign object enters the monitor's interior, immediately unplug the power cable from the power source.**

  Continuing to use the product may cause a fire or an electric shock. Contact the point of purchase and request an inspection.

- **If the monitor is dropped or the cabinet is damaged, immediately unplug the power cable from the power source.**

  Continuing to use the product may cause a fire or an electric shock. Contact the point of purchase and request an inspection.

During operation

- **Do not repair, reconstruct, or disassemble the monitor.**

  The monitors interior contains high voltage parts. A fire or an electric shock could result.

  For inspections, adjustments, and repair of the monitors interior, request work from the point of purchase.

- **Do not insert foreign objects.**

  If metal objects or flammable materials such as paper are inserted into the interior through ventilation openings or other apertures, an electric shock could result.

- **In the event of a thunder storm, do not touch the product or the power cable. An electric shock could result.**

- **Make sure to perform appropriate adjustments. Do not operate the product when the screen is flickering, distorted, or experiencing other abnormalities. Images from an improperly adjusted screen could cause players and other customers to experience dizziness, headaches, and other ailments.**

11-2 CLEANING THE SCREEN SURFACE

⚠CAUTION

- **Use a soft, dry cloth (flannel-type) to wipe away dirt. Do not use materials such as coarse mesh gauze.**
- **Alcohol (ethanol) is the recommended solvent for removing dirt. When using a cleaning agent, follow the precautions below.**

- **Dilute neutral cleaning agents for home use with water. Soak a soft cloth in the solution, and wring it thoroughly before wiping the screen.**
- **Do not use abrasive cleaning agents or powders, or cleaning agents containing bleach.**
- **Do not use alkaline cleaning agents such as glass cleaners, or solvents such as thinners.**

- **Do not scrub or scratch the screen surface with abrasive materials such as brushes or scrub brushes.**

CLEAN THE SCREEN DAILY.

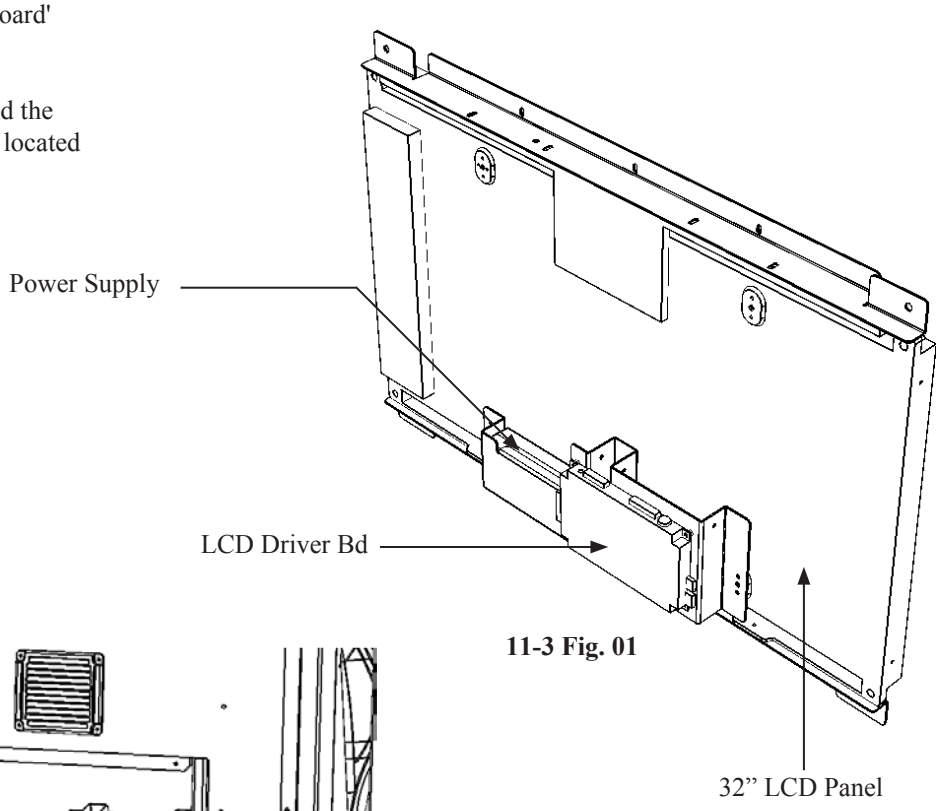
IMPORTANT

All adjustment values are set accurately at the time of shipping from the factory. Do not readjust these values needlessly or apply adjustments not specified in this manual. The display may not appear properly if the values are incorrect.

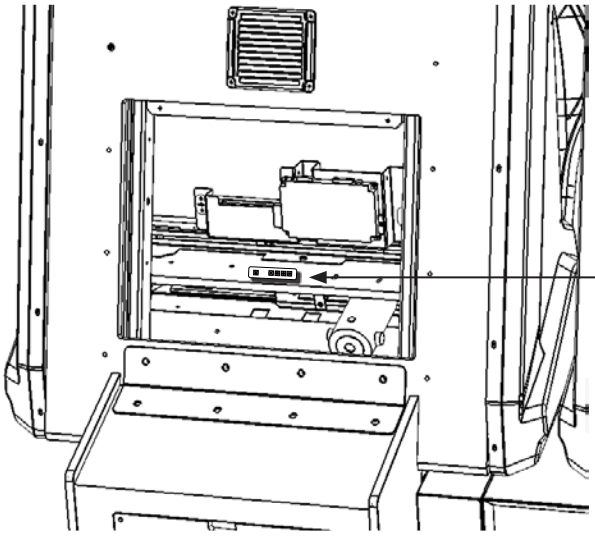
CONTROL - ADJUSTMENT PROCEDURE

This sections explains basic control procedures for making adjustments using the buttons on the 'Monitor Adjustment Board'

This Adjustment Board, and the Monitor Power Supply are located behind the Rear Door.



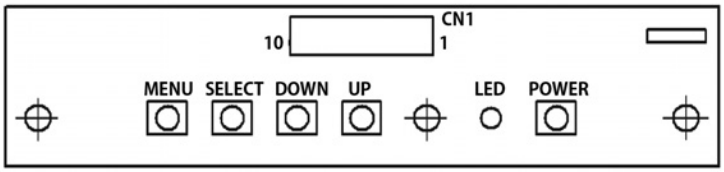
11-3 Fig. 01



11-3 Fig. 02

11-3 ADJUSTMENT METHOD

Button Names and Functions



11-3 Fig. 03

MENU: Turn the Picture Menu display ON and OFF.

SELECT: Gains entry to the Item selected in the menu. (Highlights in Yellow when selected) Exits the Item adustment. Any changes made during this operation are actioned.

DOWN: Moves the cursor (Black Bar) down to select a menu item.
Decrease the value of, or change, a selected menu item.

UP: Move the cursor (Black Bar) up to select a menu item.
Increase the value of, or change, a selected menu item.

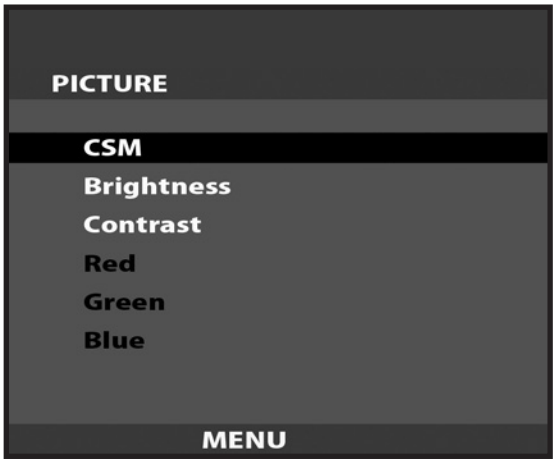
LED: LED illuminates green: Monitor is operating.
LED flashes red: Power is off.

POWER: Turns the LCD Display ON and OFF. (Usually, it's not necessary to operate.)

11-3 ADJUSTMENT METHOD

On-Screen Display (OSD)

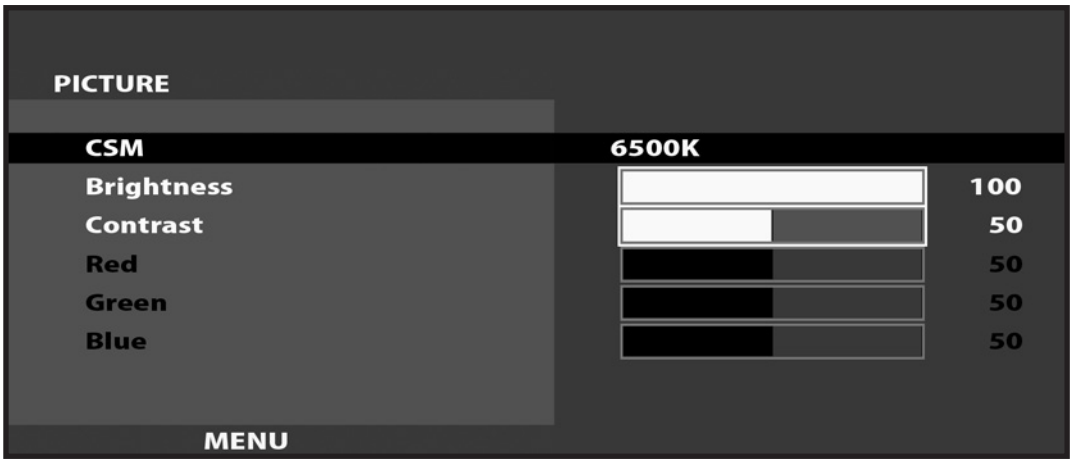
Press the MENU Button while the OSD is not displayed to bring up the Picture Menu.
On the Picture Menu, it is possible to perform various screen adjustments.



11-3 Fig. 04

Use the UP and DOWN Buttons to move the 'Black Bar'to the item you want to adjust.
After selecting the desired item, pressing the SELECT Button will extend the MENU Screen and allow adjustments to be changed.

Within each item, press the SELECT Button to exit the adjustment screen. The adjustment values at this time will be saved simultaneously.



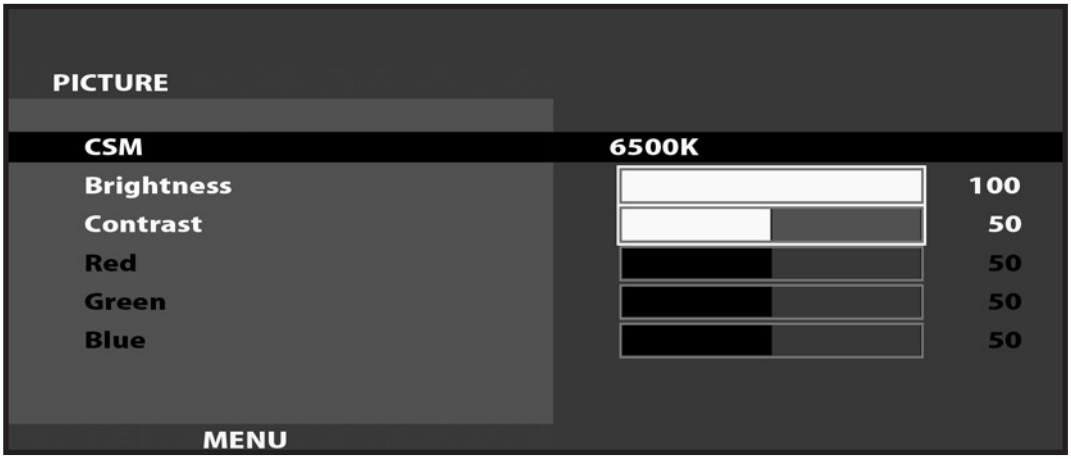
11-3 Fig. 05

The current options are set at :

CSM	-	6500K
Brightness	-	100
Contrast	-	50

11-3 ADJUSTMENT METHOD

On-Screen Display (OSD) <continued>



11-3 Fig. 06

Available Settings

CSM (Selects Operation Mode))
Selection availble - 6500K - 9300K - USER

BRIGHTNESS (Adjust Brightness)
Adjust screen Brightness. - Values: 0 - 100
(0" being the darkest setting, and "100" being the brightest)

CONTRAST (Adjust Contrast)
Adjust Contrast level. - Values: 0 - 100
(0" having the least amount of difference between light and dark, and "100" having the most)

NOTE : The Red, Green, and Blue adjustments are unavailable in the Mode of Operation selected on the Screen shown in 11-3 Fig. 06. These adjustments can only be made is the CSM option is set to 'User'.

12 COIN HANDLING

Handling the Coin Jam

If the coin is not rejected when the REJECT button is pressed, open the coin chute door and open the selector gate. After removing the jammed coin, put a normal coin in and check to see that the selector correctly functions.

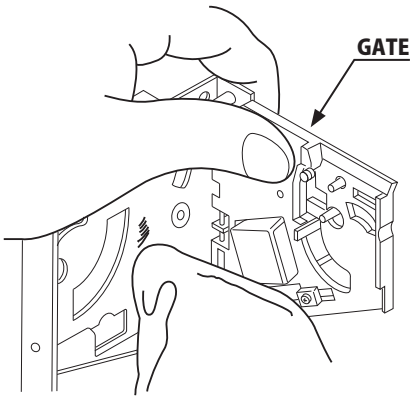
12-1 CLEANING THE COIN SELECTOR

IMPORTANT

- **Remove and clean smears by using a soft cloth dipped in water or diluted chemical detergent and then squeezed dry.**
- **Never apply machine oil, etc. to the Coin Selector.**
- **After cleaning the Coin Selector, insert a regular coin in the normal working status and ensure that the selector correctly functions.**

The Coin Selector should be cleaned once every 3 months.
When cleaning, follow the procedure below:

1. Turn the power for the machine OFF. Open the Coin Chute Door
2. Remove the Coin Selector from the Coin Chute Door
3. Open the gate and dust off by using a soft brush (Small soft Paint Brush, etc.)

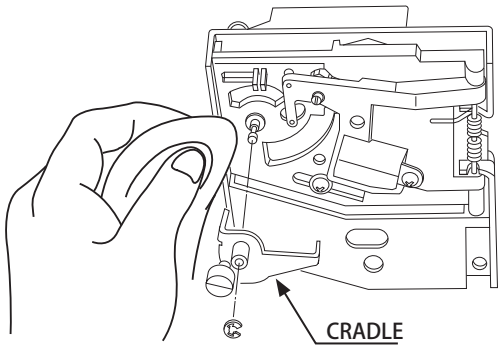


12-1 FIG 1

CLEANING THE COIN SELECTOR (MECHANICAL).

1 Remove and clean smears by using a soft cloth dipped in water or diluted chemical detergent and then squeezed dry.

2 Remove the CRADLE.. When removing the retaining ring (E ring) be very careful so as not to bend the rotary shaft.



12-1 FIG 2

3 Remove stain from the rotary shaft and shaft receiving portions by wiping off with a soft cloth. etc.

4 After wiping off as per previous step, further apply a dry cloth to completely dry the Coin Selector.

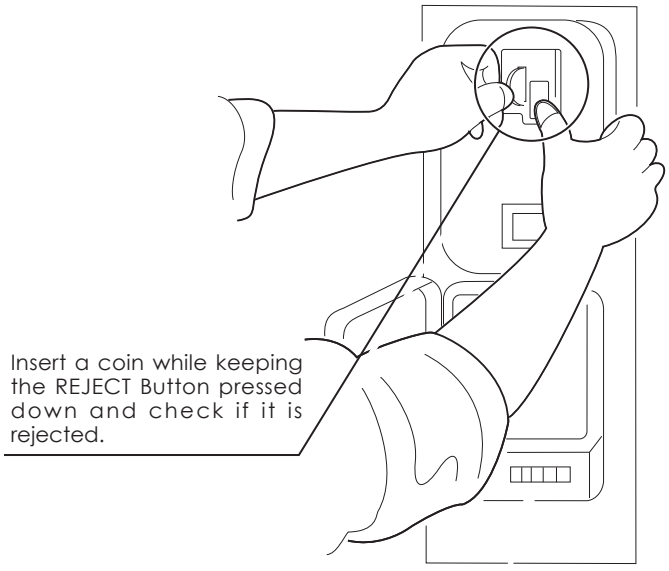
Coin Insertion Test

Once every month, when performing the Coin SW Test, simultaneously check the following:

Does the Coin Meter count satisfactorily?

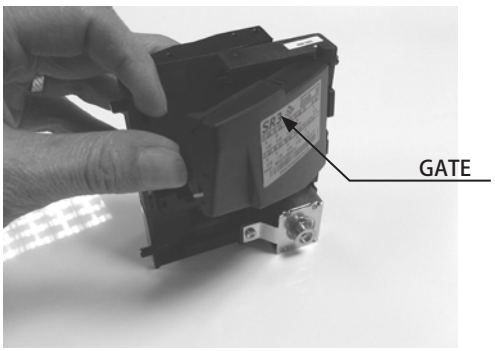
Does the coin drop into the cashbox correctly?

Is the coin rejected when inserted while keeping the REJECT Button pressed down?



12-1 FIG 3

1 Remove and clean smears by using a damp soft cloth dipped in water. DO NOT use any diluted chemical detergent or cleansing agent as this will impair the workings of the component.



2 Open the reject gate to gain access to the rundown path.

3 Remove the dirt and stains from the runway by wiping off with a soft damp cloth.

4 After wiping off as per previous step, further apply a dry cloth to completely dry the coin Selector.

12-2 FAULT FINDING

Fault Finding

The following information is presented for customers' guidance in rectifying a fault but does not cover all possible causes.

All acceptors with electronic faults should be returned to an approved service centre for repair.

SYMPTOM	INVESTIGATE	POSSIBLE CAUSE
Acceptor does not work (all coins reject)	Connector	Poor Contact
		Loose Wire
	Power Supply	Not switched on
		Incorrect voltage
		Inadequate current
		Rise time too slow
	Inhibit all inputs	Acceptor Inhibited
	Accept gate	Gate not free or dislocated
	Accept channel	Obstruction
	Reject gate	Not fully closed
	LED on rear cover RED	EEPROM chksm error
		SR Sensor fault
		Credit opto fault
		Credit sensor blocked
		Reject lever pressed
	LED on rear cover YELLOW	Reinstall power
Poor Acceptance	Power Supply	Voltage less than 10v (Voltage drops when coil engages)
	Accept gate	Gate jam or dislocated
	Connector	Loose
	Coin rundown	Dirty
	Bank Select	Both banks enabled
Coin stick or jam in acceptor.	Accept channel	Acceptor dirty or may have some damage
	Accept gate	
	Regect gate	
A true coin type rejects	Label	Coin not programmed
No accept signal	Connector	Loose or broken wire
	Accept channel	Path dirty or obstructed

12-3 ADJUSTING THE PRICE OF PLAY (EXCEL)

STOP IMPORTANT

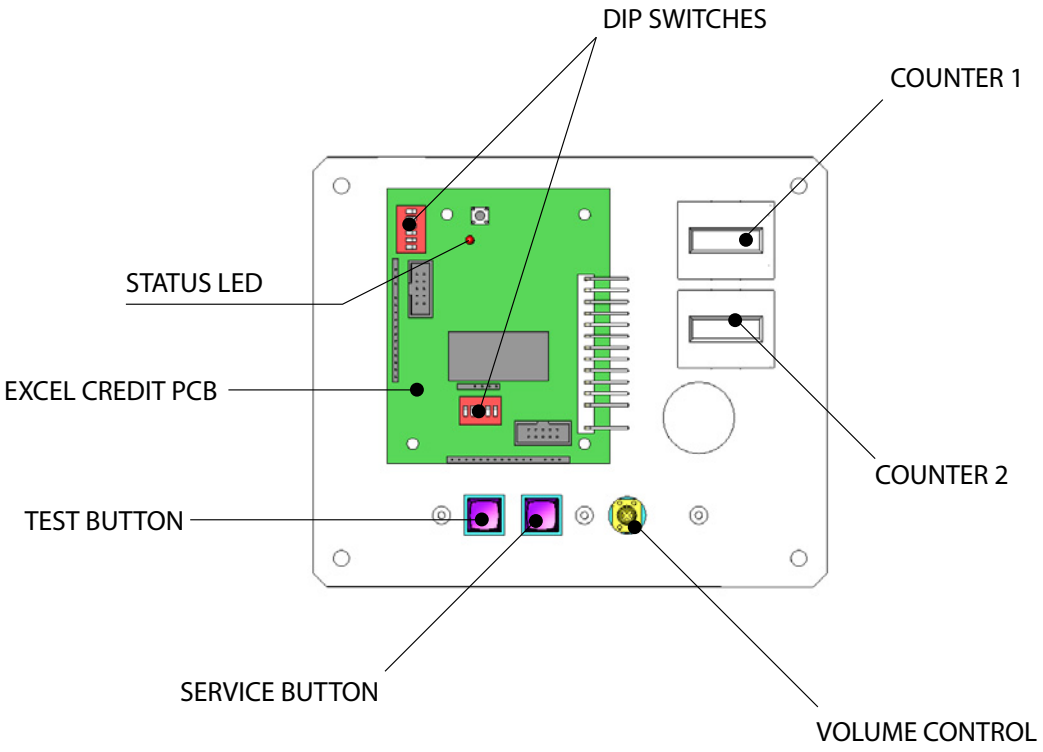
• The price of play is determined by the configuration of switches located on either an EXCEL board or VTS board. The type of board used is determined by product location. Switch settings for both types of board remain the same.

This product comes equipped with a Money Controls SR3 Coin Acceptor. To adjust the price of play ALL credit setting are adjusted via the EXCEL CREDIT BOARD.

IMPORTANT!
The CREDIT SETTINGS within the SYSTEM TEST MODE must be set to 1 coin 1 credit to allow the CREDIT BOARD to function correctly.

The VTS BD has a built in Credit Board. This is controlled by 2 DIL Switches. These allow the operator to select the price of play, type of coin acceptor and region.

EXCEL Credit Board



DIL SW3 (Regional Settings)
Adjust these switches to specify the type of Coin Acceptor used and currency.

Default = SW1&SW2 ON - SR3 in parallel mode, Sterling.

TEST BUTTON	Provides access to the TEST MENU when pressed.
SERVICE BUTTON	Provides a SERVICE CREDIT when pressed
Status LED	Flashes when functioning.
CHANNEL 1	To Coin Acceptor (SR3 TYPE.)
DIL SW1 (credit settings)	Adjust to required price of pay.
VOL CONTROL	MAIN VOLUME ADJUSTMENT (FRONT SPEAKERS)

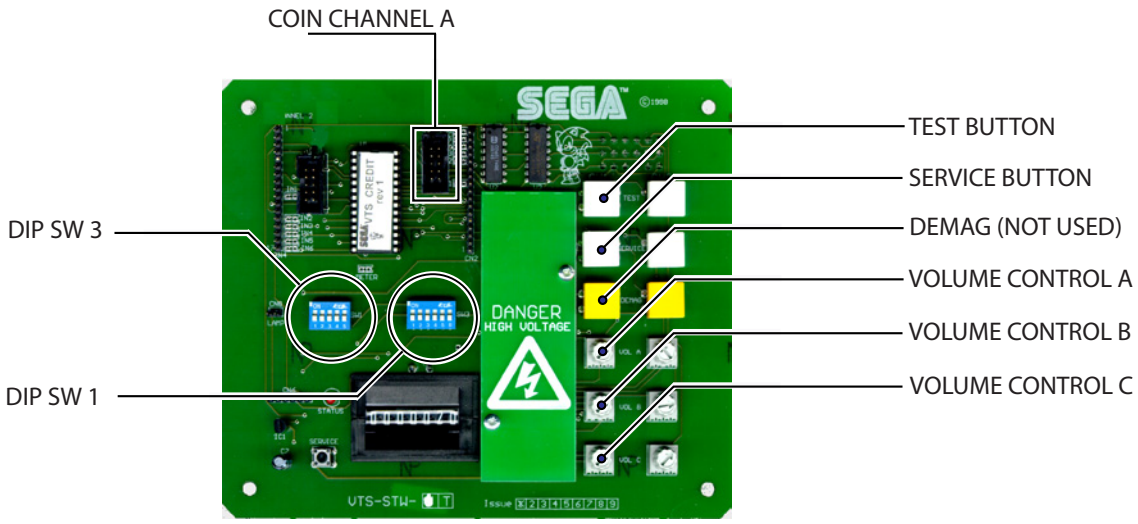
12-4 ADJUSTING THE PRICE OF PLAY (VTS)

This product comes equipped with a Money Controls SR3 Coin Acceptor. To adjust the price of play ALL credit setting are adjusted via the EXCEL CREDIT BOARD.

IMPORTANT!
The CREDIT SETTINGS within the SYSTEM TEST MODE must be set to 1 coin 1 credit to allow the CREDIT BOARD to function correctly.

The VTS BD has a built in Credit Board. This is controlled by 2 DIL Switches. These allow the operator to select the price of play, type of coin acceptor and region.

VTS Board



DIL SW3 (Regional Settings)
Adjust these switches to specify the type of Coin Acceptor used and currency.

Default = SW1&SW2 ON - SR3 in parallel mode, Sterling.

TEST BUTTON	Provides access to the TEST MENU when pressed.
SERVICE BUTTON	Provides a SERVICE CREDIT when pressed
Status LED	Flashes when functioning.
CHANNEL A	To Coin Acceptor (SR3 TYPE.)
DIL SW1 (credit settings)	Adjust to required price of pay.
DEMAG	NOT USED
VOL CONTROL A	MAIN VOLUME ADJUSTMENT (FRONT SPEAKERS)
VOL CONTROL B	SECONDARY VOL ADJUSTMENT (GUN SPEAKERS)
VOL CONTROL C	NOT USED

Credit Board Mode Settings Switch 3																			
Country	Setting	Switch 3 Setting						Coin Validator Programming								C120/SR3 Only			
		SW1	SW2	SW3	SW4	SW5	SW6	COIN1	COIN2	COIN3	COIN4	COIN5	COIN6	COIN7	COIN8	COIN9	COIN10	COIN11	COIN12
UK	Coin Controls C220 Parallel	OFF	OFF	OFF	OFF			£1	50p new	20p	10p	-	50p old	-	-				
UK	Coin Controls C220 Binary	ON	OFF	OFF	OFF			£1	50p new	20p	10p	-	50p old	-	£2				
UK	Coin Controls C220 Binary	OFF	ON	OFF	OFF			£1	50p new	20p	10p	-	£2	-	50p old				
UK	Coin Controls SR3 Parallel	ON	ON	OFF	OFF			£1	50p new	20p	10p	-	£2	-	50p old	-	-	-	-
UK Euro	Coin Controls SR3 Parallel	OFF	OFF	ON	OFF			£2 €2	£1 €1	50p new 50¢	20p 20¢	10p 10¢	-	-	-	50p old	-	-	-
UK	Mars ME/MS 111 Parallel	ON	OFF	ON	OFF			£1	£2	20p	10p	50p new	50p old						
UK	NRI Parallel	OFF	ON	ON	OFF			10p	20p	50p	£1	£2	-						
Belgium	Parallel	ON	ON	ON	OFF			-	50BFr	20BFr	5BFr								
Holland	Parallel	OFF	OFF	OFF	ON			-	5NLG	2.5NLG	1NLG								
Austria	SR3 Parallel	ON	OFF	OFF	ON			20Sch	10Sch	5Sch	1Sch								
Spain	Coin Controls C220 Binary	OFF	ON	OFF	ON			500Pta	200Pta	100Pta	50Pta	25Pta	200Pt old	50Pta old	25Pta old				
Spain	SR3/NRI Parallel	ON	ON	OFF	ON			500Pta	200Pta	100Pta	50Pta	25Pta	-	-	200Pta	-	50Pta old	25Pta old	-
Spain	Coin Controls C220 Parallel	OFF	OFF	ON	ON			100Pta	50Pta new	-	25Pta new	-	50Pta old	-	25Pta old				
Portugal Euro	Parallel	ON	OFF	ON	ON			200Es €1	100Es 50¢	50Es	-	-	-	-	-				
	TBA					OFF		TBA					**Please Note** The credit board automatically sets the validator for parallel and binary operation through an output on pin 8 of the 17 way pinstrip. For the feature to work it is necessary for the validator interconnecting cable to include at wire at this position							
						ON		TBA											
	Channels						OFF	Direct Mode											
							ON	2 channel Mode											

Note: These switch settings are under constant review and may change due to world currency updates.

Set SW 1 according to the option settings found in the relevant Price of Play Settings Table on the following pages.

Set SW 3 on the VTS /Excel board as shown in the table above corresponding to the country required.

STERLING PRICE OF PLAY SETTINGS (SW1)

	Price	Bonus			DIL Switch 1				
					1	2	3	4	5
1	10p	50p = 5 plays	£1 = 10 plays	£2 = 20 plays	OFF	OFF	OFF	OFF	OFF
2	10p	50p = 6 plays @ 8.33p per play	£1 = 12 plays @ 8.33p per play	£2 = 24 plays @ 8.33p per play	**ON**	OFF	OFF	OFF	OFF
3	20p	50p = 2.5 plays	£1= 5 plays	£2 = 10 plays	OFF	**ON**	OFF	OFF	OFF
4	20p	50p = 3 plays @ 16.66p per play	£1 = 6 plays @ 16.66p per play	£2 = 12 plays @ 16.66p per play	**ON**	**ON**	OFF	OFF	OFF
5	30p	50p = 1.66 plays	£1 = 3.33 plays	£2 = 6.66 plays	OFF	OFF	**ON**	OFF	OFF
6	30p	50p = 1.66 plays	£1 = 4 plays @ 25p per play	£2 = 8 plays @ 25p per play	**ON**	OFF	**ON**	OFF	OFF
7	30p	50p = 2 plays @ 25p per play	£1 = 4 plays @ 25p per play	£2 = 8 plays @ 25p per play	OFF	**ON**	**ON**	OFF	OFF
8	30p	50p = 2 plays @ 25p per play	£1 = 3 plays @ 33.33p per play	£2 = 6 plays @ 33.33p per play	**ON**	**ON**	**ON**	OFF	OFF
9	40p	50p = 1.25 plays	£1 = 2.5 plays	£2 = 5 plays	OFF	OFF	OFF	**ON**	OFF
10	40p	50p = 1.25 plays	£1 = 3 plays @ 33.3p per play	£2 = 6 plays & 33.3p per play	**ON**	OFF	OFF	**ON**	OFF
11	50p	50p = 1 play	£1 = 2 plays	£2 = 4 plays	OFF	**ON**	OFF	**ON**	OFF
12	50p	50p = 1 play	£1 = 3 plays @ 33.3p per play	£2 = 6 plays @ 33.3p per play	**ON**	**ON**	OFF	**ON**	OFF
13	50p	50p = 1 play	£1 = 2 plays	£2 = 5 plays @ 40p per play	OFF	OFF	**ON**	**ON**	OFF
14	60p	50p = 0.83 play	£1 = 1.66 plays	£2 = 3.33 plays	**ON**	OFF	**ON**	**ON**	OFF
15	60p	50p = 0.83 play	£1 = 2 plays @ 50p per play	£2 = 4 plays @ 50p per play	OFF	**ON**	**ON**	**ON**	OFF
16	80p	50p = 0.62 play	£1 = 1.25 plays	£2 = 2.5 plays	**ON**	**ON**	**ON**	**ON**	OFF
17	80p	£1 = 1.25 plays	£1.50 = 2 plays @ 75p per play	£2 = 2.5 plays	OFF	OFF	OFF	OFF	**ON**
18	£1	2x50p = 1 play	£1 = 1 play	£2 = 2 plays	**ON**	OFF	OFF	OFF	**ON**
19	£1	2x50p = 1 play	£1 = 1 play	£2 = 3 plays @ 66.6p per play	OFF	**ON**	OFF	OFF	**ON**
20	£1	2x50p = 1 play	£2 = 2 plays	£4 = 5 plays @ 80p per play	**ON**	**ON**	OFF	OFF	**ON**
21	£1.50	3x50p = 1 play	£1 = 0.66 plays	£3 = 2 plays	OFF	OFF	**ON**	OFF	**ON**
22	£1.50	3x 50p = 1 play	£1 = 0.66 plays	£2 = 2 plays @ £1 per play	**ON**	**OFF**	**ON**	OFF	**ON**
23	£2	4x 50p = 1 play	£1 = 0.5 play	£2 = 1 play	OFF	**ON**	**ON**	OFF	**ON**
24	£2	4x 50p = 1 play	£1 = 0.5 play	£5 = 3 plays @ £1.66 per play	**ON**	**ON**	**ON**	OFF	**ON**
25	£3	6x50p = 1 play	£1.50 = 0.5 play	£3 = 1 play	OFF	OFF	OFF	**ON**	**ON**
26	£3	6x50p = 1 play	£1.50 = 0.5 play	£5 = 2 plays @ £2.50 per play	**ON**	OFF	OFF	**ON**	**ON**
27	£5	£1 = 0.2 play	£5 = 1 play	£10 = 2 plays	OFF	**ON**	OFF	**ON**	**ON**
28	£5	£1 = 0.2 play	£5 = 1 play	£10 = 3 plays @ £3.33p per play	**ON**	**ON**	OFF	**ON**	**ON**
29	£7.50	£5 = 0.66 play	£10 = 1.33 plays	£15 = 2 plays	OFF	OFF	**ON**	**ON**	**ON**
30	£7.50	£5 = 0.66 play	£10 = 1.33 plays	£10 = 2 plays @ £5 per play	**ON**	OFF	**ON**	**ON**	**ON**
31	£10	£10 = 1 play	£20 = 2 play	£30 = 3 play	OFF	**ON**	**ON**	**ON**	**ON**
32	Free Play				**ON**	**ON**	**ON**	**ON**	**ON**

	Price	Bonus			DIL Switch 1				
					1	2	3	4	5
1	10¢	50¢ = 5 plays	€1 = 10 plays	€2 = 20 plays	OFF	OFF	OFF	OFF	OFF
2	10¢	50¢ = 6 plays @ 8.33p per play	€1 = 12 plays @ 8.33¢ per play	€2 = 24 plays @ 8.33¢ per play	**ON**	OFF	OFF	OFF	OFF
3	20¢	50¢ = 2.5 plays	€1= 5 plays	€2 = 10 plays	OFF	**ON**	OFF	OFF	OFF
4	20¢	50¢ = 3 plays @ 16.66¢ per play	€1 = 6 plays @ 16.66¢ per play	€2 = 12 plays @ 16.66¢ per play	**ON**	**ON**	OFF	OFF	OFF
5	30¢	50¢ = 1.66 plays	€1 = 3.33 plays	€2 = 6.66 plays	OFF	OFF	**ON**	OFF	OFF
6	30¢	50¢ = 1.66 plays	€1 = 4 plays @ 25¢ per play	€2 = 8 plays @ 25¢ per play	**ON**	OFF	**ON**	OFF	OFF
7	30¢	50¢ = 2 plays @ 25¢ per play	€1 = 4 plays @ 25¢ per play	€2 = 8 plays @ 25¢ per play	OFF	**ON**	**ON**	OFF	OFF
8	30¢	50¢ = 2 plays @ 25¢ per play	€1 = 3 plays @ 33.33¢ per play	€2 = 6 plays @ 33.33¢ per play	**ON**	**ON**	**ON**	OFF	OFF
9	40¢	50¢ = 1.25 plays	€1 = 2.5 plays	€2 = 5 plays	OFF	OFF	OFF	**ON**	OFF
10	40¢	50¢ = 1.25 plays	€1 = 3 plays @ 33.33¢ per play	€2 = 6 plays @ 33.33¢ per play	**ON**	OFF	OFF	**ON**	OFF
11	50¢	50¢ = 1 play	€1 = 2 plays	€2 = 4 plays	OFF	**ON**	OFF	**ON**	OFF
12	50¢	50¢ = 1 play	€1 = 3 plays @ 33.33¢ per play	€2 = 6 plays @ 33.33¢ per play	**ON**	**ON**	OFF	**ON**	OFF
13	50¢	50¢ = 1 play	€1 = 2 plays	€2 = 5 plays @ 40¢ per play	OFF	OFF	**ON**	**ON**	OFF
14	60¢	50¢ = 0.83 play	€1 = 1.66 plays	€2 = 3.33 plays	**ON**	OFF	**ON**	**ON**	OFF
15	60¢	50¢ = 0.83 play	€1 = 2 plays @ 50¢ per play	€2 = 4 plays @ 50¢ per play	OFF	**ON**	**ON**	**ON**	OFF
16	80¢	50¢ = 0.62 play	€1 = 1.25 plays	€2 = 2.5 plays	**ON**	**ON**	**ON**	**ON**	OFF
17	80¢	£1 = 1.25 plays	€1.50 = 2 plays @ 75¢ per play	€2 = 2.5 plays	OFF	OFF	OFF	OFF	**ON**
18	€1	2x50¢ = 1 play	€1 = 1 play	€2 = 2 plays	**ON**	OFF	OFF	OFF	**ON**
19	€1	2x50¢ = 1 play	€1 = 1 play	€2 = 3 plays @ 66.6¢ per play	OFF	**ON**	OFF	OFF	**ON**
20	€1	2x50¢ = 1 play	€2 = 2 plays	€4 = 5 plays @ 80¢ per play	**ON**	**ON**	OFF	OFF	**ON**
21	€1.50	3x50¢ = 1 play	€1 = 0.66 plays	€3 = 2 plays	OFF	OFF	**ON**	OFF	**ON**
22	€1.50	3x 50¢ = 1 play	€1 = 0.66 plays	€2 = 2 plays @ €1 per play	**ON**	**OFF**	**ON**	OFF	**ON**
23	€2	4x 50¢ = 1 play	€1 = 0.5 play	€2 = 1 play	OFF	**ON**	**ON**	OFF	**ON**
24	€2	4x 50¢ = 1 play	€1 = 0.5 play	€5 = 3 plays @ €1.66 per play	**ON**	**ON**	**ON**	OFF	**ON**
25	€3	6x50¢ = 1 play	€1.50 = 0.5 play	€3 = 1 play	OFF	OFF	OFF	**ON**	**ON**
26	€3	6x50¢ = 1 play	€1.50 = 0.5 play	€5 = 2 plays @ €2.50 per play	**ON**	OFF	OFF	**ON**	**ON**
27	€5	€1 = 0.2 play	€5 = 1 play	€10 = 2 plays	OFF	**ON**	OFF	**ON**	**ON**
28	€5	€1 = 0.2 play	€5 = 1 play	€10 = 3 plays @ 3.33¢ per play	**ON**	**ON**	OFF	**ON**	**ON**
29	€7.50	€5 = 0.66 play	€10 = 1.33 plays	€15 = 2 plays	OFF	OFF	**ON**	**ON**	**ON**
30	€7.50	€5 = 0.66 play	€10 = 1.33 plays	€10 = 2 plays @ €5 per play	**ON**	OFF	**ON**	**ON**	**ON**
31	€10	€10 = 1 play	€20 = 2 play	€30 = 3 play	OFF	**ON**	**ON**	**ON**	**ON**
32	Free Play				**ON**	**ON**	**ON**	**ON**	**ON**

12 COIN HANDLING

12-5 SR3 OPTIONS - STERLING / EURO SELECT

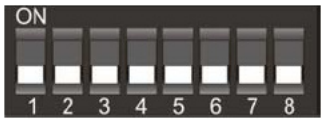
SELECTING STERLING / EURO OPTION

The SR3 coin acceptor (supplied) is programmed to accept UK Sterling and the Euro. Factory setting is for the UK Sterling. If the configuration needs to change to the Euro, then please follow the instructions below for changing over to the Euro and visa versa.

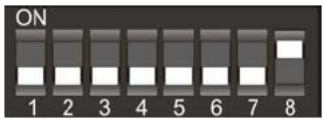
BANK SELECT

This function allows you to enable both or individual select banks of coins via switches 7 and 8 on the 8 way DIL switch.
This enables the selection of 2 different currencies, one in each bank, or 12 coins/tokens in both banks from the same country.

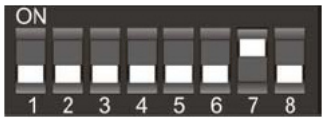
To enable/disable the banks set the switches as show below.



Both Banks ON (enabled) - Sterling and Euro' s



Bank 1 ON (enabled) and Bank 2 OFF (disabled) - Sterling ONLY



Bank 1 OFF (disabled) and Bank 2 ON (enabled) - Euro' s ONLY

Please remove power from the SR3 before changing the status on the DIP SW.

12-6 SR3 OPTIONS - TEACH AND RUN PROGRAMMING

TEACH AND RUN PROGRAMMING (SR3)

If the machine is positioned in location where only tokens are used, then the SR3 Coin Acceptor can be programmed to accept and credit special coins/tokens.

Please follow the instructions below to enable and program the TEACH & RUN facility.

Table 1: Teach & Run Programming Bank 1.

Coin Number	SW1	SW2	SW3	SW4	SW5	SW6
1	off	off	off	ON	ON	off
2	off	off	ON	off	ON	off
3	off	off	ON	ON	ON	off
4	off	ON	off	off	ON	off
5	off	ON	off	ON	ON	off
6	off	ON	ON	off	ON	off

Bank 2

Table 2: Teach & Run Programming Bank 2

Coin Number	SW1	SW2	SW3	SW4	SW5	SW6
7	off	ON	ON	ON	ON	off
8	ON	off	off	off	ON	off
9	ON	off	off	ON	ON	off
10	ON	off	ON	off	ON	off
11	ON	off	ON	ON	ON	off
12	ON	ON	off	off	ON	off

Teach and Run EXAMPLE. (To teach coin channel 12 for £1)

Switch off the power to the SR3 and set the Program DIL switches to:-

MSB SW1	SW2	SW3	LSB SW4	TOTAL	SW5	SW6
ON	ON	OFF	OFF	12	ON	OFF

Switch on the power to the SR3.
Press the reject lever within 20 seconds. The LED will turn RED.
Start entering £1 coins until the LED flashes GREEN, typically after 8 to 10 insertions.

NOTE: If the LED turns GREEN after the 1st coin, then the Teach & Run is DISABLED.

Press the reject lever and the LED will turn GREEN. The coin channel has now been programmed.

SET ALL SWITCHES TO THE OFF POSITION.

13 LAMPS AND LIGHTING

⚠WARNING

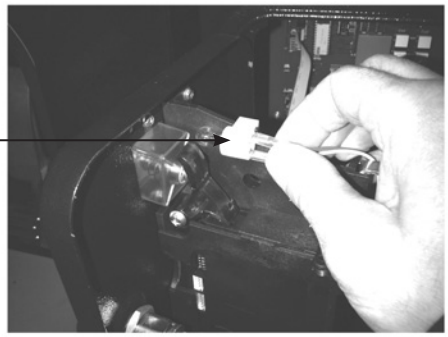
- **When working with the product, be sure to turn the power off. Working with the power on may cause an electric shock or short circuit.**
- **You may get burned by a hot fluorescent lamp or other lamps. Pay full attention to the lamps when performing the work.**
- **Be sure to use lamps of the designated rating. Using lamps of undesignated rating can cause a fire or malfunctioning.**
- **There is the danger of short circuits or smoke generation due to deterioration of insulation in lighting fixtures resulting from age deterioration. Check for anomalies such as the following: Does it smell like something is burning? Is there socket discoloration? Are any lamps being replaced frequently? Do lamps not go on properly?**

⚠CAUTION

The Coin Door Lamp utilises a 12v 1.2w Wedge Bulb. It is important that you replace this bulb or any other bulb of that of the same voltage and rating. Failing to observe this caution may result in PCB failure or possible fire hazard.

13-1 COIN DOOR LAMP

Step 1. Open the Coin Door and locate the Lamp Housing directly behind the Coin Insert Bezel.



Step 2. Hold the Lamp Housing firmly between your index finger and thumb and gently pull upwards. Do Not try to remove the Lamp Housing whilst holding the bulb a the bulb may break causing injury.

Step 3. Once the Lamp Housing has been removed, carefully hold the bulb between your fingers and pull the Lamp Housing away.

Do not twist either bulb or Lamp Housing whilst removing the bulb as this may cause damage to both bulb and or Housing.

Step 4. Simply push-fit a replacement bulb of the same type and follow these steps in reverse to refit.

13-2 FLUORESCENT TUBES - BILLBOARD

⚠ WARNING

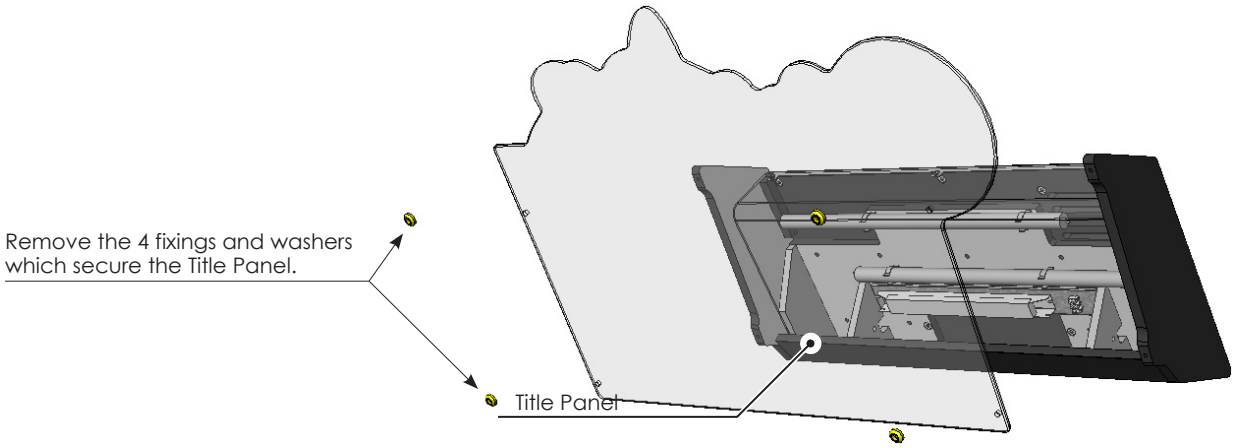
THIS WORK ON TOP OF THE CABINET, SHOULD NOT BE UNDERTAKEN WITHOUT THE USE OF A SUITABLE STEP OR FOOTSTOOL.

⚠ WARNING

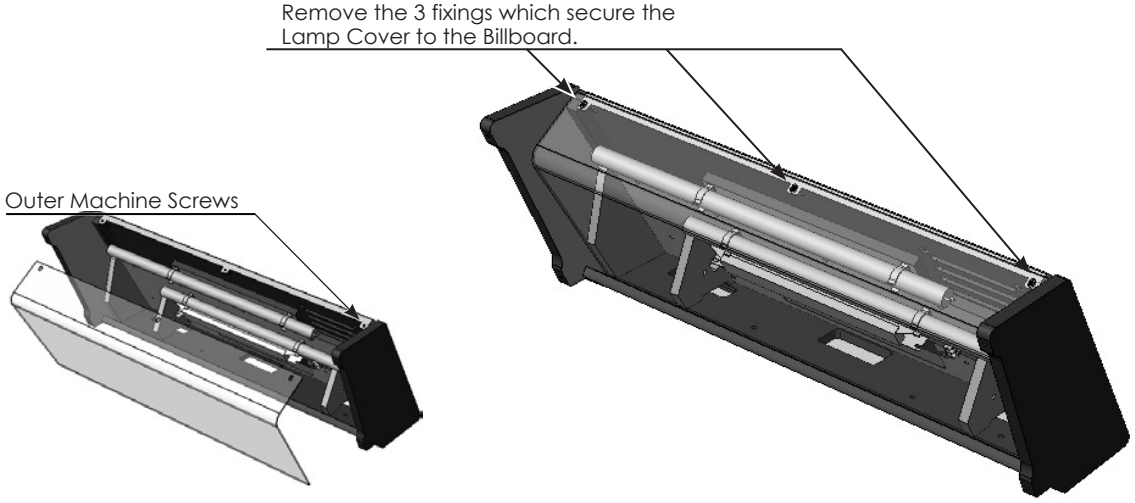
MAKE SURE THAT THE MAIN SUPPLY VOLTAGE TO THE MACHINE IS SWITCHED OFF BEFORE ATTEMPTING TO CARRY OUT THIS WORK

1 The Billboard Fluorescent Tube is located inside the back section of the Billboard Base, before attempting to change the Tube, TURN THE POWER OFF.

2 To gain access to the Fluorescent Tube, extract the four fixing screws which hold the Billboard Title Panel in place and remove the cover.

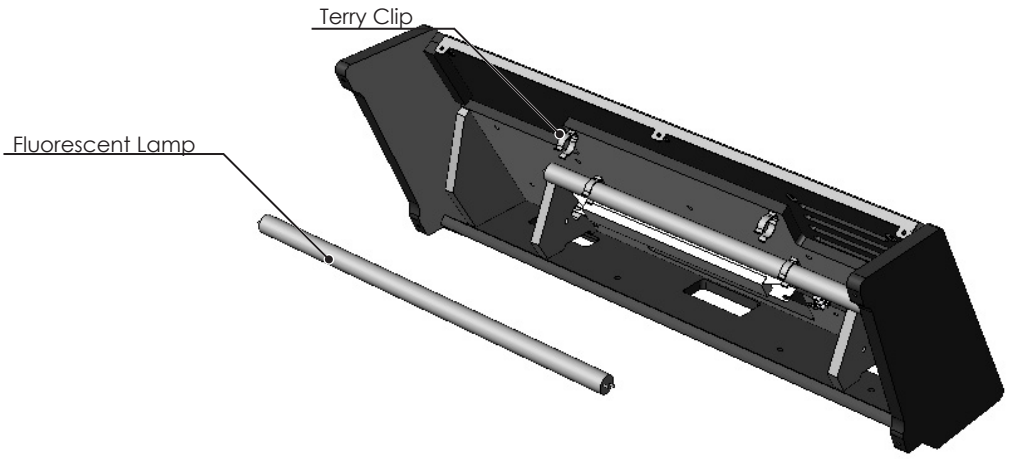


3 Remove the 3x Philips screws which secure the Lamp Cover to the Billboard. Carefully remove the Lamp Cover taking care not cause damage. If possible, loosen the outer machine screws on both ends of the Billboard to ease removal.



3 Once the cover is removed, disconnect the fly-lead connectors from either end of the Fluorescent Tube and carefully unclip it from the Terry Clips removing it from the machine.

Due to the possible risk of broken Glass during this procedure, protective clothing should be worn.



4 Replace the Fluorescent Tube with a new one of the same type and re-assemble the Billboard in the reverse order.

13-3 RACE LEADER LED

⚠ WARNING

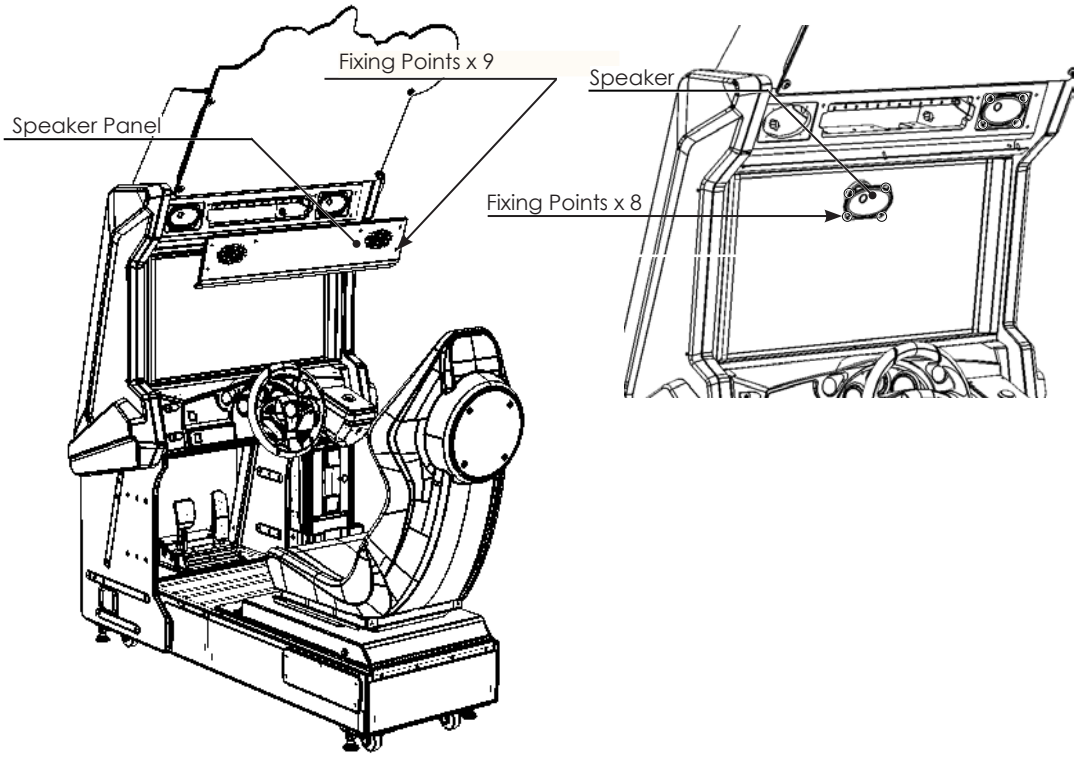
THIS WORK ON TOP OF THE CABINET, SHOULD NOT BE UNDERTAKEN WITHOUT THE USE OF A SUITABLE STEP OR FOOTSTOOL.

⚠ WARNING

MAKE SURE THAT THE MAIN SUPPLY VOLTAGE TO THE MACHINE IS SWITCHED OFF BEFORE ATTEMPTING TO CARRY OUT THIS WORK

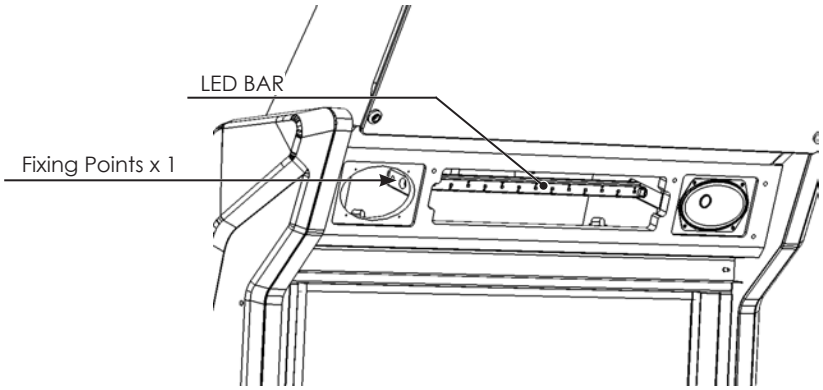
1 The RACE LEADER Lamp is a strip of bright white LED's mounted on a PCB.

2 To gain access to the RACE LEADER Lamp, extract the nine fixing screws marked which hold the Speaker Panel in place and remove.

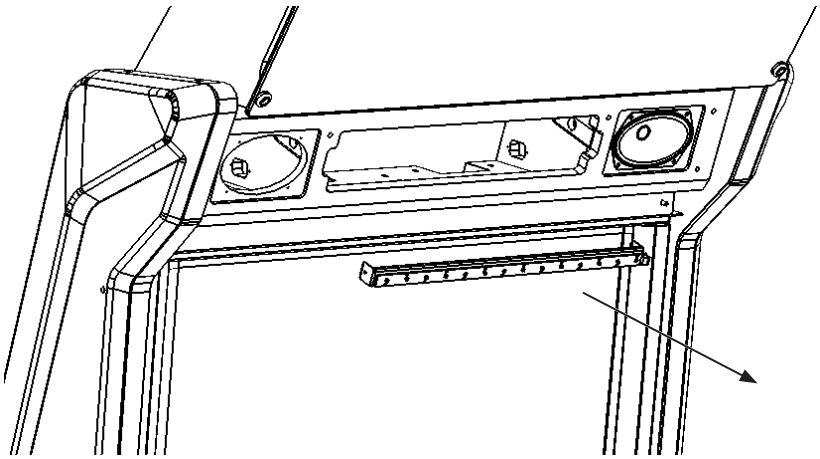


3 Locate the 2 oval speakers positioned above the display. Disconnect and extract both speakers by removing the 8 fixings which secure the speaker to the cabinet. (4 fixings per speaker)

4 Once the speakers have been removed, locate the LED Bar and remove the fixings at both ends of the assembly. Access is available through the speaker area.



5 Once both fixings have been removed, carefully pull out the LED bar and Bracket towards you until restricted by the harness. Disconnect and remove.



13-4 START LAMP

⚠ WARNING

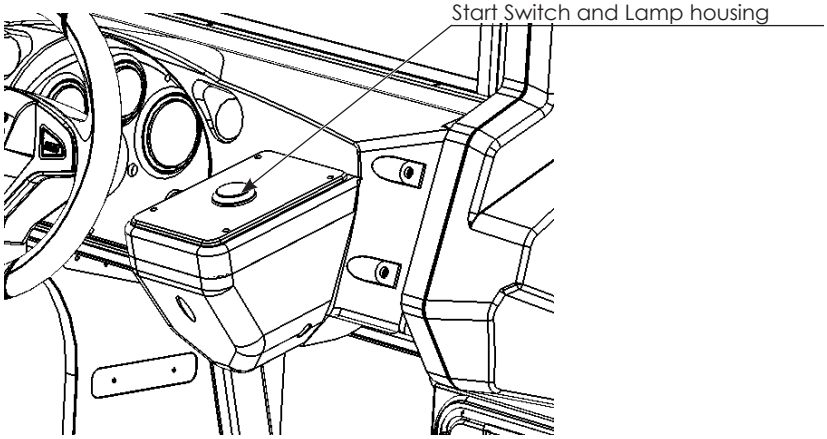
MAKE SURE THAT THE MAIN SUPPLY VOLTAGE TO THE MACHINE IS SWITCHED OFF BEFORE ATTEMPTING TO CARRY OUT THIS WORK

⚠ WARNING

THE START LAMP IS A 12V (White) LED TYPE. IT IS IMPORTANT THAT YOU REPLACE THIS LAMP WITH A LAMP OF THE SAME SPECIFICATION. REPLACING THE LAMP WITH A FILAMENT BULB OR A LED OF A DIFFERENT SPECIFICATION MAY RESULT IN PCB FAILURE OR EVEN A FIRE HAZARD.

1 Locate the Start Button housing positioned on the right hand side of the cabinet and on the right of the Steering Wheel.

2 Access to the Start Switch and Lamp housing is gained by first removing the Start Button Plate..

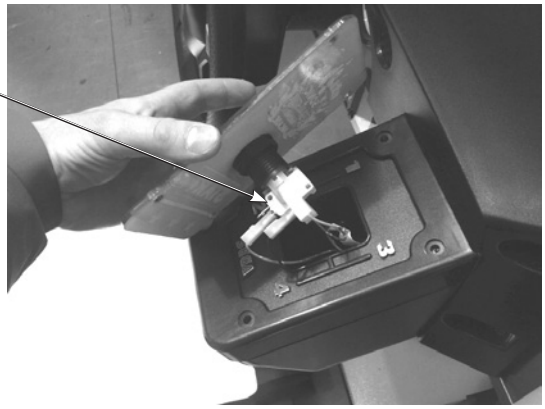


3 Remove the Button Plate from the Control Panel to gain access to the Switch and Lamp housing.

Remove the (4) M4 Security Torx screws which secure the button plate to the Control Panel housing.

4 Once the Button plate has been removed to reveal the Switch and Lamp housing take care as not to pull on the assembly as damage to the harness may occur.

Switch and Lamp Housing

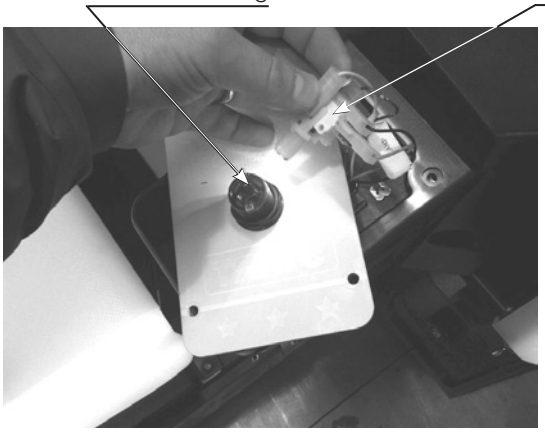


5 Holding the Lamp Housing between your index finger and thumb, gently pull on the housing to remove it from the Button enclosure. Always hold firmly onto the housing and never the wires.
To remove the lamp from the lamp hosing, gently pull on the lamp to remove. The Lamp is a push-fit and should never be twisted whilst in its housing.

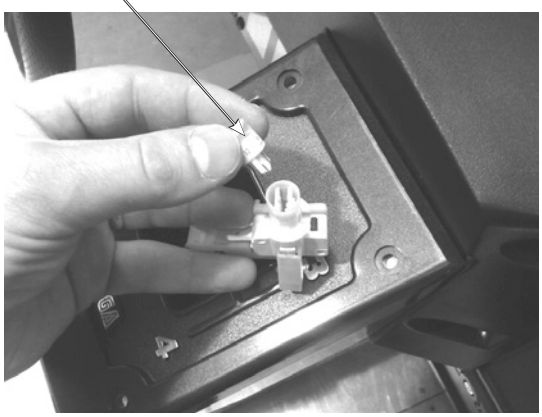
Replace the lamp with a lamp of the same type and reassemble following these instructions in revers order.

Button Housing

Switch and Lamp Housing



Lamp - LED 12Vdc (White)



14 PERIODIC INSPECTION

The items listed below require periodic check and maintenance to retain the performance of this machine and to ensure safe business operation.
When handling the controller, the player will be in direct contact with it. In order to always allow the player to enjoy the game, be sure to clean it regularly. Also, it is advisable to provide wet tissue, etc. available for player use.

⚠ WARNING

- **Every 6 months check to see if power cords are damaged, the plug is securely inserted, dust is accumulated between the socket outlet and the power plug, etc. Using the product with accumulated dust in the interior may cause fire or electric shock.**
- **Never use a water jet, etc. to clean the inside and outside of the cabinet. If wetness occurs for any reason, do not use the product until it has completely dried.**
- **Once a year, request the office shown on this manual or the dealer from whom the product was originally purchased to perform the internal cleaning. Using the product with accumulated dust in the interior may cause fire or other accidents.**

  Note that you are liable for the cost of cleaning the interior parts.
- **There is the danger of accidents involving electrical shorts circuits or fire caused by factors such as the deterioration of insulation in electrical and electronic equipment over time. Check that there are no abnormalities such as odors from burning.**

14 TABLE 01 PERIODIC INSPECTION TABLE

ITEMS	DESCRIPTION	PERIOD
CABINET	Confirm that adjusters contact floor	Daily
CONTROL PANEL STEERING WHEEL	Volume inspection	Monthly
	Gear alignment inspection	Every 3 months
	Greasing	Every 3 months
SHIFT LEVER	Switch inspection	Monthly
	Greasing	Every 3 months
START BUTTON	Switch inspection	Every 3 months
ACCELERATOR & BRAKE	Volume inspection	Monthly
	Gear and spring potion greasing	Every 3 months
MONITOR	Screen cleaning	Weekly
	Confirm settings	Monthly or when moving
COIN CHUTE DOOR	Coin switch inspection	Monthly
	Coin insertion test	Monthly
	Selector cleaning	Every 3 months
SEAT	Greasing to the seat rail	Every 3 months
GAME BOARD	Confirm settings	Monthly
POWER CABLES	Inspection, Cleaning	6 months
INTERIOR	Cleaning	Yearly
CABINET SURFACES	Cleaning	As appropriate

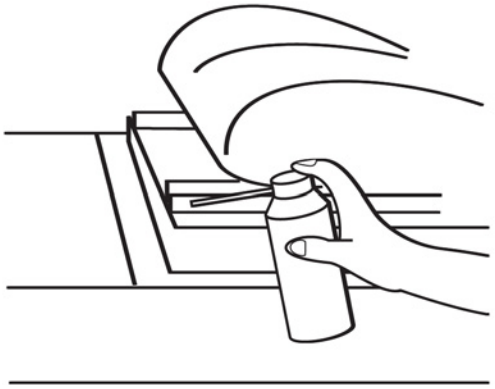
Cleaning the Cabinet Surfaces

When the cabinet surfaces are badly soiled, remove stains with a soft cloth dipped in water or diluted (with water) chemical detergent and squeezed dry. To avoid damaging surface finish, do not use such solvents as thinner, benzine, etc. other than ethyl alcohol, or abrasives, bleaching agent and chemical dustcloth.
Some general-purpose household, kitchen and furniture cleaning products may contain strong solvents that degrade plastic components, coatings, and print. Before using any cleaning product, read the product's cautionary notes carefully and test the product first on a small area that is not highly visible.

Seat (Greasing to Seat Rail Portion)

Move the Seat to the rear most position and apply spray greasing to the portion shown at the right once every 3 months using NOK KLUBER L60 or GREASE MATE SEGA PART No. 090-0066.

After greasing, move the Seat a few times forward and backward so as to allow the grease to be applied all over uniformly.
Be sure to wipe grease which attaches to the surfaces of the PROTECT RUBBER on the Seat Rail, or any excess grease.



15 TROUBLESHOOTING

15-1 TROUBLESHOOTING (WHEN NO ERROR MESSAGE IS SHOWN)

⚠WARNING

- **In order to prevent electric shock and short circuit, be sure to turn power off before performing work.**
- **Be careful so as not to damage wirings. Damaged wiring can cause electric shock or short circuit.**
- **After removing the cause of the functioning of the Circuit Protector, reinstate the Circuit Protector. Depending on the cause of the functioning, using the Circuit Protector as is without removing the cause can cause generation of heat and fire hazard.**
- **In the event that a problem cannot be resolved by employing the procedures listed in this Manual, be sure to request service from the office shown on this Manual or the dealer from whom the product was originally purchased. Attempts to employ procedures other than those specified in this Manual can cause electrical shock, shorting, or fire.**
- **In the event of a problem that is not described here, be sure to contact the office shown on this Manual or the dealer from whom the product was originally purchased. Careless attempts at repair can result in electrical shock, shorting, or fire.**

If a problem occurs, first check to make sure that the wiring connectors are properly connected.

15 TABLE 01

PROBLEM	CAUSE	COUNTERMEASURES
When the main SW is turned ON, the machine is not activated.	The power is not ON.	Firmly insert the plug into the outlet.
	Incorrect power source/voltage.	Make sure that the power supply/voltage are correct.
	The Fuse on the AC Unit has blown due to momentary over current.	After eliminating the cause of overload, replace the specified rating fuse.
	The fuse of the connect board has blown due to momentary over current.	After eliminating the cause of overload, replace the specified rating fuse.
Fluorescent lamp inside Billboard Unit not lighting	Connector connection fault.	Check connections to the Billboard Unit.
	Fluorescent lamp and glow lamp need replacement.	Replace the fluorescent lamp and the glow lamp.

Sound is not emitted.	Sound volume adjustment is not correct	Adjust the Switch Unit's sound adjustment volume.
	Faulty connections for various connectors	Check the connections for the game board, amp, speakers and Volume connectors
	Malfunctioning BD, amp and speaker	Perform Sound Test.
Sounds are emitted and the lamps are lit, but the screen is black.	Faulty connections for the visual signal connector or the monitor power connector	Check the connections for the monitor and game board connectors.
	Faulty LCD Display	See Chapter 11
Colors on the monitor screen are strange.	Faulty connection for the visual signal connector.	Check the visual signal connector connection and make sure it is secured properly.
	Screen adjustment is not appropriate.	Make adjustment appropriately.
The on-screen image sways and/or shrinks.	The power source and voltage are no correct.	Make sure that the power supply and voltage are correct.
Does not accept input from any switch or volume.	Faulty connector connections.	Check the connection for the I/O Board and Cabinet connector.
		Check the power for the I/O Board.
Steering (Servomotor) response is incorrect.	Incomplete power on check.	Power on and verify that the power on check completes properly.
	Deviation of the volume value.	Adjust the volume value in the Test Mode.
	Volume gear engagement fault.	Adjust the engagement of the gear.
	Volume malfunctioning.	Replace the volume.
	Detached wires.	Check for faulty wire connections around moving parts. When replacing wires, secure them so that they do not touch any moving parts.
No response from Steering (Servomotor).	Failure of power-on checking procedure.	Reconnect the power and complete a power-on checking procedure.
	Faulty connector connections.	Check the connections for the connectors between the Game Board and Servodriver and between the Servodriver and the Servomotor.
	Thermal element in the Servodriver is operating.	Occurs when the internal temperature reaches 70°C (158°F) and corrects automatically when the unit cools.
	Momentary overload caused a fuse on the Servodriver to blow.	Contact the company from whom the unit was purchased.

Steering (Servomotor) is weak in its force feedback	Ageing of the force feedback mechanism	Reset in the Test Mode.
Does not accept input in from the Reset Button unit.	Faulty connector or connections.	Check the connections between the I/O Board, the Cabinet and the Reset Button Unit
	Faulty Microswitch	Replace Microswitch
The accelerator or brake does not perform appropriately.	Incorrect volume setting.	Adjust the volume value in the Test Mode.
	Faulty Volume attachment or adjust gear alignment.	Adjust the volume attachment and verify in Test Mode.
	Faulty connector or connections.	Check the connections for the accelerator and brake connectors and the connectors between the accelerator, brake and cabinet.
	Failure of the volume.	Replace the volume.
Start button input does not work and they do not flash.	Faulty connector or connections.	Check the connections for the connectors between the I/O Board, the cabinet and the control panel and those inside the control panel.
Start button input works, but they do not flash.	Unverified settings or operation.	The Start button only flashes when Free Play is set. Check the operation in Test Mode.
	The lamp is blown.	Replace the lamp.
Failure of the network play.	Network play is wrongly set.	Reset correctly.
	Communication cables are disconnected. Communication cables are wrongly connected.	Reconnect the cables.
	Damage of communication cables.	Replace the cables. Contact the company from whom the unit was purchased.

Replacing Fuses

⚠WARNING

- **In case fuse replacements other than those stated in this manual are necessary, contact where you purchased the product from for inquiries regarding this matter.**
- **In order to prevent an electric shock, be sure to turn power off and unplug from the socket outlet before performing work by touching the internal parts of the product.**
- **Be careful so as not to damage wirings. Damaged wiring can cause electric shock and short circuit accidents.**
- **Be sure to use fuses meeting specified rating. Using fuses exceeding the specified rating can cause fire and electric shock accidents.**
- **After eliminating the cause of the blowing of fuse, replace the fuse. Depending on the cause of fuse blowing, continued use with the fuse as is blown can cause generation of heat and fire hazard.**

Fuses are located on the following:

RD-1540UK	Assy AC Unit	(1) 5A Time Delay 20mm (1) 5A Time Delay 20mm (Spare)
838-14551-02UK	AC Distribution PCB	(2) 6.3A Time Delay 20mm

16 GAME BOARD (RINGWIDE)

⚠ WARNING

- **When working with the product, be sure to turn the power off. Working with the power on may cause an electric shock or short circuit.**
- **Be careful not to damage the wires. Damaged wires may cause an electric shock, short circuit or present a risk of fire.**
- **Do not use this product with connectors other than those that were connected and used with the game board at the time of shipping. Do not carelessly connect wires to connectors that were not used at the time of shipping, as this may cause overheating, smoke or fire damage.**

⚠ CAUTION

In this product, setting changes are made during the test mode. The game board need not be operated. Use the game board, etc. as is with the same setting made at the time of shipment so as not to cause electric shock and malfunctioning.

STOP IMPORTANT

Static electricity from your body may damage some electronics devices on the IC board. Before handling the IC board, touch a grounded metallic surface so that the static electricity can be discharged.

16-1 HANDLING PRECAUTIONS

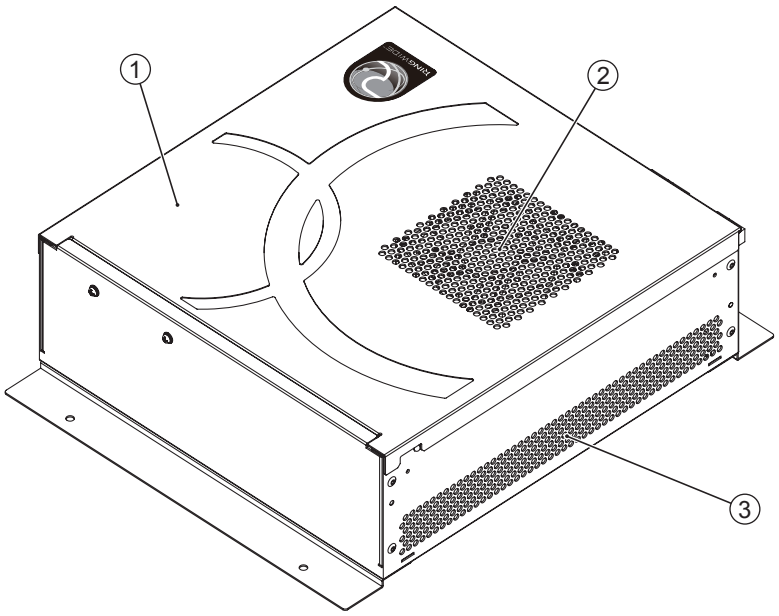
⚠ WARNING

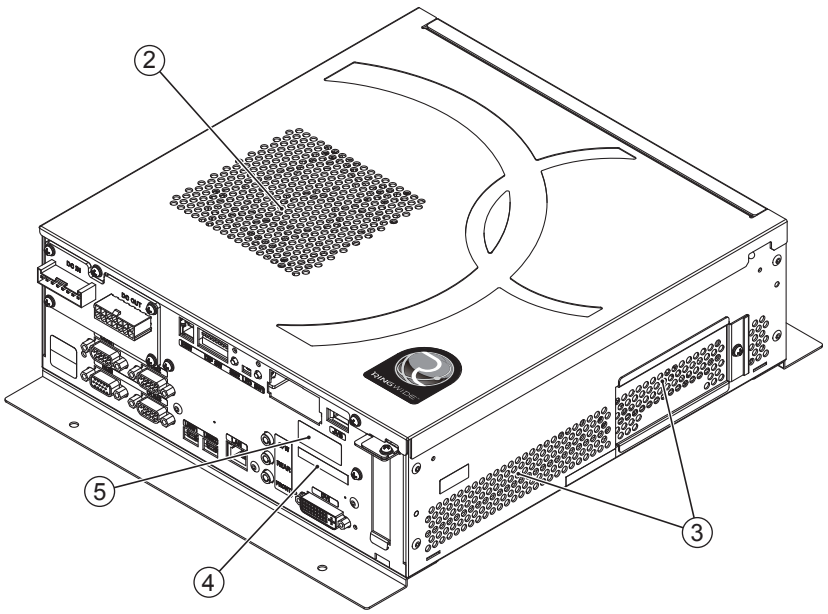
- **To prevent electric shock or IC Board malfunctioning, be sure to turn off the power for the cabinet when installing or removing the IC Board.**
- **Extraneous matter such as dust on the IC Board can cause the IC Board to generate heat and result in a fire due to short circuit, etc. Ensure the IC Board surfaces are always kept clean.**
- **Keep the IC board well cooled. RINGWIDE is provided with ventilating fans. Do not block the air outlets of these fans. Also do not place anything closely to RINGWIDE. Failure to observe these instructions may cause an overheating and fire.**
- **Always follow the usage conditions from SEGA as well as the usage conditions for the cabinet you are using for RINGWIDE. Failure to do so may cause an overheating and fire.**

STOP IMPORTANT

- **Be sure to connect the IC Board and connectors completely. Insufficient insertion can damage IC Board, etc.**
- **For the IC Board circuit inspection, only the use of Logic Tester is permitted. The use of ordinary testers is not permitted as these can damage the IC Board.**
- **Do not subject the IC Board to static electricity when installing the IC Board in the cabinet or when connecting wire harness connectors to the IC Board.**
- **When soldering buttons, etc. to the wire harnesses, be sure to remove the wire harnesses from the IC Board so as not to subject the IC Board to heat.**
- **Using RINGWIDE without the Shield Case can cause electric wave trouble. Be sure to use RINGWIDE together with the accessory Shield Case.**
- **Some parts are the ones designed and manufactured not specifically for this product. The manufacturers may discontinue, or change the specifications of, such general-purpose parts. If this is the case, SEGA cannot repair or replace a failed product whether or not a warranty period has expired.**

16-2 PARTS DETAILS



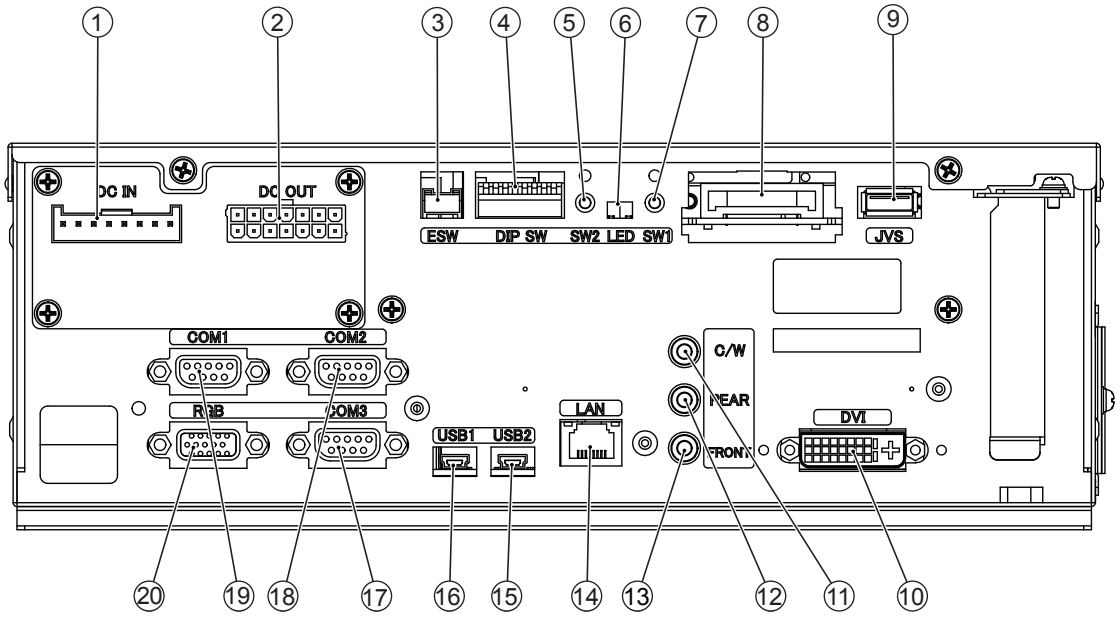


① Shield case
② Exhaust vent (Do not block or cover.)
③ Intake vent (Do not block or cover.)
④ Board number
⑤ Board serial number

CONNECTORS, SWITCHES AND LED

⚠ WARNING

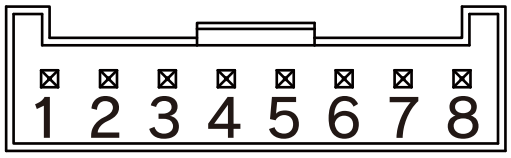
- **When connecting the connector, check the orientation and type carefully and connect securely. The connector must be connected in the proper direction and type. If it is connected in the wrong direction or indiscriminately at an incline, or connected wrong connector, so that a load is applied, the connector or its terminal pins could break, causing a short circuit or fire.**
- **Do not connect components to ⑨ JVS I/O that are not designated by SEGA. Connecting unspecified components could cause an accident such as an electric shock or fire.**



① Power input port
② External power supply port
③ Test/Service button external input port
④ DIP SW (Dip switches)
⑤ Service button (SW2)
⑥ LED1, LED2 (From right to left: 1, 2)
⑦ Test button (SW1)
⑧ Key chip socket
⑨ JVS I/O port
⑩ DVI output
⑪ Center/Woofer lineout
⑫ Rear lineout
⑬ Front lineout
⑭ LAN port
⑮ USB port 2
⑯ USB port 1
⑰ Serial communication port 3
⑱ Serial communication port 2
⑲ Serial communication port 1
⑳ RGB output

① Power Input Port

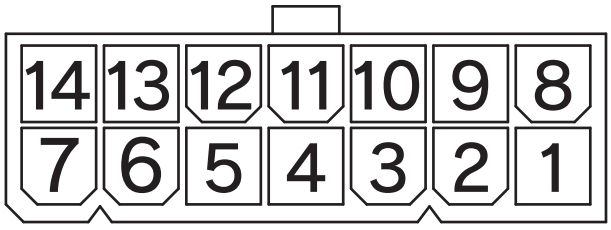
Terminal No.	Signal Name	Terminal No.	Signal Name
1	GND	5	+12V DC IN
2	GND	6	+12V DC IN
3	GND	7	+12V DC IN
4	GND	8	+12V DC IN



NOTE: Before connecting, be sure to check the type of connector.

② External Power Supply Port

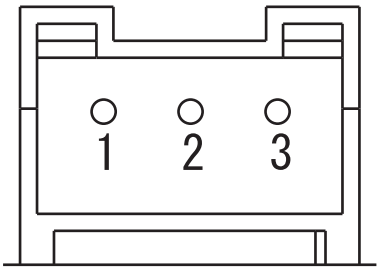
Terminal No.	Signal Name	Terminal No.	Signal Name	Maximum Output Current
1	GND	8	+12V DC	2.3A
2	GND	9	+12V DC	
3	GND	10	+12V DC	
4	GND	11	+5V DC	2.3A
5	GND	12	+5V DC	
6	GND	13	+5V DC	
7	N.C.	14	N.C.	-



NOTE: Before connecting, be sure to check the type of connector.

③ Test/Service Button External Input Port

Terminal No.	Signal Name
1	SW1
2	SW2
3	GND



④ DIP SW

No. 1, No. 2 and No.3:
Use differs depending on game software. Set according to the Service Manual provided with the game software itself.

No. 4:
Changes the facing of the monitor. Use differs depending on game software. Set according to the Service Manual provided with the game software itself. If no specific directions are given set to horizontal display (OFF).

OFF: Horizontal display
ON: Vertical display

No. 5, No. 6 and No. 7:
Set the resolution of the video output.
Use differs depending on game software. Set according to the Service Manual provided with the game software itself.

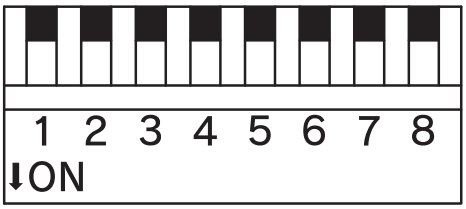
Resolution	No. 5	No. 6	No. 7
*	OFF	OFF	OFF
640 x 480	ON	OFF	OFF
1024 x 600	OFF	ON	OFF
1024 x 768	ON	ON	OFF
1280 x 720	**OFF**	**OFF**	**ON**
1280 x 1024	ON	OFF	ON
1360 x 768	OFF	ON	ON
1920 x 1080	ON	ON	ON

For SONIC & SEGA ALL-STARS RACING ARCADE the resolution is 1280x720

No. 8:
Use differs depending on game software. Set according to the Service Manual provided with the game software itself.

The diagram below shows all 8 switches in the OFF position.

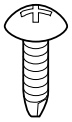
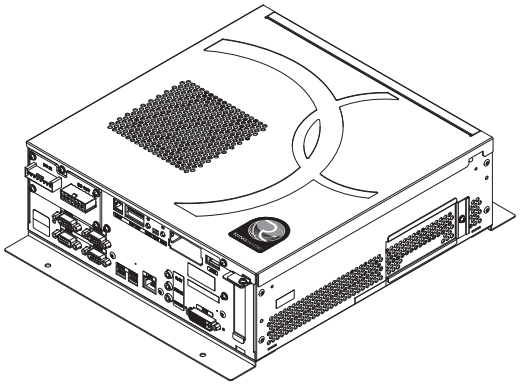
No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8
OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF



16-3 RINGWIDE COMPONENTS

■ ACCESSORIES

Parts not labeled with part numbers are as yet unregistered or cannot be registered. Be sure to handle all parts with care, as some parts are not available for purchase separately.

DESCRIPTION/PART NO.	FIGURES/NOTES	QTY
TAPPING SCREW 011-P00412	 Used for installing the RINGWIDE.	4
RINGWIDE 847-0001D-01 : USA 847-0001D-02 : OTHERS 847-0001D-03 : CHINA		1 ea.

16-4 ERROR CODE DISPLAY

⚠ WARNING

- **If an error code is displayed get on-site maintenance personnel or other qualified professional to look at it. An unqualified person attempting to resolve an error code problem may lead to electric shock, short circuit and risk of fire.**

  If no on-site maintenance personnel or qualified professional is available immediately turn off the power and contact the customer services in this manual or your supplier.
- **If a problem not described in this manual occurs, or the resolution to a problem described in this manual is not effective, do not make further attempts to resolve the problem yourself. Immediately turn off the power and contact the office listed in this manual or your supplier. Any unguided attempts to solve such problems may lead to a serious accident.**

STOP IMPORTANT

If an error number or message not listed below appears, cease using the product immediately and contact the office listed in this manual or the point of purchase for this product.

RINGWIDE is equipped to display various errors on-screen to help solve any problems. If an error is displayed the game cannot be used. Use the following table of causes and countermeasures to solve the problem.

DISPLAY	Error 0001 Keychip Not Found
CAUSE	There is no key chip, or the key chip is not connected correctly.
COUNTERMEASURES	Check that the key chip is connected correctly.

DISPLAY	Error 0002 Keychip Not Available
CAUSE	The key chip is not supported. The RINGWIDE system program must be updated.
COUNTERMEASURES	Check how the game was installed. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0004 Game Program Not Acceptable
CAUSE	The key chip is not supported.
COUNTERMEASURES	Check that the key chip from a different system is not inserted. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0008 Keychip Access Failed
CAUSE	The key chip could not be accessed.
COUNTERMEASURES	Reinsert the key chip and restart RINGWIDE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0010 Unexpected Game Program Failure
CAUSE	The game program crashed due to an unexpected error.
COUNTERMEASURES	Turn the power off and then restart the RINGWIDE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0020 EXIO Not Found
CAUSE	The I/O board inside RINGWIDE is not recognized.
COUNTERMEASURES	Turn the power off and then restart the RINGWIDE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0021 Main board Malfunctioning
CAUSE	The main board does not recognize itself.
COUNTERMEASURES	Contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0022 Game Program Not Found on Storage Device
CAUSE	There is no game program on the storage device.
COUNTERMEASURES	Use the installation media (DVD DRIVE, etc.) to reinstall the game.

DISPLAY	Error 0023 - 0026 Main board Malfunctioning
CAUSE	Failed to access the main board.
COUNTERMEASURES	Turn the power off and then restart the RINGWIDE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0027 Low Battery
CAUSE	The button battery may be depleted.
COUNTERMEASURES	Replace the button battery.

DISPLAY	Error 0041 Game Program Not Found on Install Media
CAUSE	There is no game program on the install media.
COUNTERMEASURES	Check that the game program, place on the install media (DVD DRIVE etc.), and the key chip correspond to each other.

DISPLAY	Error 0042 Game Program Not Found on Install Media
CAUSE	Some part of the game program is missing.
COUNTERMEASURES	Check how the game was installed. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0049 Install Media Access Failed
CAUSE	Failed to access the install media.
COUNTERMEASURES	Check that the install media (DVD DRIVE etc.) is connected correctly. Check that the game disk is not scratched, damaged or dirty. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0052 Install Media Access Failed
CAUSE	Failed to access the install media.
COUNTERMEASURES	Check that the install media (DVD DRIVE etc.) is connected correctly. Check that the game disk is not scratched, damaged or dirty. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0055 Game Program Verify Error
CAUSE	The installed game program is not working correctly.
COUNTERMEASURES	Turn the power off and then restart the RINGWIDE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0064 Game Program Not Found on Server
CAUSE	No game program on the LAN install server.
COUNTERMEASURES	Check that the game program, place on the LAN install server, and the key chip correspond to each other.

DISPLAY	Error 0066 Game Program Verify Error
CAUSE	The installed game program is not working correctly.
COUNTERMEASURES	Turn the power off and then restart the RINGWIDE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0081 Invalid Storage Format
CAUSE	The storage format is wrong.
COUNTERMEASURES	Contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0082 Game Program Access Failed
CAUSE	The storage device cannot be recognized.
COUNTERMEASURES	Reinstall the game program. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0083 Storage Device Not Acceptable
CAUSE	The storage does not have enough space.
COUNTERMEASURES	Contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0084 Storage Device Malfunctioning
CAUSE	The storage device may be broken.
COUNTERMEASURES	Turn the power off and then restart the RINGWIDE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0085 Invalid Storage Format
CAUSE	The storage format is wrong.
COUNTERMEASURES	Contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0088 System Program Verify Error
CAUSE	The installed system program is not working correctly.
COUNTERMEASURES	Perform a manual recovery of RINGWIDE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0090 High CPU Temperature
CAUSE	The CPU temperature is high.
COUNTERMEASURES	Refer to Chapter 7, and clean RINGWIDE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0091 Too High CPU Temperature
CAUSE	The CPU temperature is high.
COUNTERMEASURES	Refer to Chapter 7, and clean RINGWIDE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0501 - 0530 (No message)
CAUSE	The connected device cannot be recognized.
COUNTERMEASURES	Turn the power off and then restart the RINGWIDE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0531 (No message)
CAUSE	The connected graphics device cannot be recognized.
COUNTERMEASURES	Turn the power off and then restart the RINGWIDE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0532 (No message)
CAUSE	The connected USB device cannot be recognized.
COUNTERMEASURES	Check that the USB devices are connected correctly, and turn the power off and then restart the RINGWIDE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0533 - 0550 (No message)
CAUSE	The connected device cannot be recognized.
COUNTERMEASURES	Turn the power off and then restart the RINGWIDE. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0901 Wrong Platform
CAUSE	The game board being used is not supported.
COUNTERMEASURES	Check to see if any game programs have been upgraded.

DISPLAY	Error 0902 Wrong System Program
CAUSE	It was started up with an unsupported system program. The RINGWIDE system program must be updated.
COUNTERMEASURES	Check how the game was installed. If that doesn't fix the problem, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0903 Wrong Region.
CAUSE	The game is for a foreign region.
COUNTERMEASURES	Use a domestic game.

DISPLAY	Error 0905 Graphic Function Not Found
CAUSE	The RINGWIDE graphics function cannot be recognized.
COUNTERMEASURES	Check that the game program is compatible with the RINGWIDE. If it is, contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0906 Sound Function Not found
CAUSE	The RINGWIDE sound function cannot be recognized.
COUNTERMEASURES	Contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0907 Not Enough System Memory
CAUSE	RINGWIDE does not have enough memory.
COUNTERMEASURES	Contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0908 Not Enough SRAM
CAUSE	RINGWIDE does not have enough SRAM.
COUNTERMEASURES	Contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0909 Not Enough Storage Device
CAUSE	RINGWIDE does not have enough storage.
COUNTERMEASURES	Contact the office listed in this manual or the point of purchase for this product.

DISPLAY	Error 0910 Wrong Resolution Setting
CAUSE	The game does not support the current resolution settings.
COUNTERMEASURES	Change the DIP SW to the correct settings and restart the RINGWIDE.

DISPLAY	Error 0911 Wrong Horizontal/Vertical Setting.
CAUSE	The monitor horizontal/vertical settings are incorrect.
COUNTERMEASURES	Change the DIP SW to the correct settings and restart the RINGWIDE.

DISPLAY	Error 0949 Keychip Not Found
CAUSE	Failed to access the key chip.
COUNTERMEASURES	Check that the key chip is connected correctly.

DISPLAY	Error 6401 JVS I/O board is not connected to main board.
CAUSE	(1) The I/O board is not connected. (2) Unreliable connection between the game board and the I/O board.
COUNTERMEASURES	(1) Connect the I/O board to RINGWIDE. Check that the power cable is connected to I/O board. (2) Reconnect or replace the JVS cable that connects the I/O board to RINGWIDE.

DISPLAY	Error 6402 JVS I/O board does not fulfill the game spec.
CAUSE	The correct I/O board is not connected.
COUNTERMEASURES	Use an I/O board that provides the proper input/output for the game.

DISPLAY	Error 8001 Network address error (DHCP)
CAUSE	The network connection settings could not be initialized.
COUNTERMEASURES	Check the network connection and follow the startup procedures to restart the system.

DISPLAY	Error 8002 Network setting error (SYSTEM)
CAUSE	The SYSTEM TEST MODE NETWORK SETTING is incorrect.
COUNTERMEASURES	Check the NETWORK SETTING.

DISPLAY	Error 8003 Network address error (Dup.IP)
CAUSE	The network connection settings could not be initialized.
COUNTERMEASURES	Check the network connection and follow the startup procedures to restart the system.

DISPLAY	Error 8004 Network setting error (Dup.IP)
CAUSE	The SYSTEM TEST MODE NETWORK SETTING is incorrect.
COUNTERMEASURES	Check the NETWORK SETTING.

DISPLAY	Error 8005 Network type error (WAN)
CAUSE	The line type of the connected ALL.Net router is incorrect.
COUNTERMEASURES	Check the line type of the connected ALL.Net router.

DISPLAY	Error 8006 Network timeout error (DHCP)
CAUSE	The network connection settings could not be initialized.
COUNTERMEASURES	Check the network connection and follow the startup procedures to restart the system.

DISPLAY	Error 8007 Network timeout error (DNS-WAN)
CAUSE	A connection could not be established with ALL.Net.
COUNTERMEASURES	Check the RINGWIDE network connection, the in-store network connection and the connection between the ALL.Net router and the network cable, and then follow the startup procedures to restart the system. If the error persists, check the maintenance information.

DISPLAY	Error 8008 Network timeout error (DNS-LAN)
CAUSE	A connection could not be established with the ALL.Net router.
COUNTERMEASURES	Check the RINGWIDE network connection and the in-store network ALL.Net connection and then follow the startup procedures to restart the system.

DISPLAY	Error 8009 Network Game Disabled
CAUSE	The GAME TEST MODE ALL.Net connection is set to OFF.
COUNTERMEASURES	Check the GAME TEST MODE settings.

DISPLAY	Error 8103 ALL.Net System error (TIMEOUT)
CAUSE	A connection could not be established with ALL.Net.
COUNTERMEASURES	Check the RINGWIDE network connection, the in-store network connection and the connection between the ALL.Net router and the network cable, and then follow the startup procedures to restart the system. If the error persists, check the maintenance information.

DISPLAY	Error 8104 ALL.Net System error (REG)
CAUSE	ALL.Net registration could not be confirmed.
COUNTERMEASURES	Check to make sure ALL.Net registration (the agreement) has been successfully completed.

DISPLAY	Error 8106 ALL.Net System Caution
CAUSE	A connection could not be established with ALL.Net.
COUNTERMEASURES	Check the RINGWIDE network connection, the in-store network connection and the connection between the ALL.Net router and network cable, and then follow the startup procedures to restart the system. If the error persists, check the maintenance information.

DISPLAY	Error 8111 ALL.Net System error (REG)
CAUSE	ALL.Net registration could not be confirmed.
COUNTERMEASURES	Check to make sure ALL.Net registration (the agreement) has been successfully completed.

DISPLAY	Error 8113 ALL.Net System error (MODE)
CAUSE	The ALL.Net settings could not be confirmed.
COUNTERMEASURES	Contact the office listed in this manual.

DISPLAY	Error 8114 ALL.Net System error (RTC)
CAUSE	A connection could not be established with ALL.Net.
COUNTERMEASURES	Check the RINGWIDE network connection, the in-store network connection and the connection between the ALL.Net router and the network cable, and then follow the startup procedures to restart the system. If the error persists, check the maintenance information.

DISPLAY	Error 8201 ALL.Net System error (TIMEOUT)
CAUSE	A connection could not be established with ALL.Net.
COUNTERMEASURES	Check the RINGWIDE network connection, the in-store network connection and the connection between the ALL.Net router and network cable, and then follow the startup procedures to restart the system. If the error persists, check the maintenance information.

DISPLAY	Error 8202 ALL.Net System error (REG)
CAUSE	ALL.Net registration could not be confirmed.
COUNTERMEASURES	Check to make sure ALL.Net registration (the agreement) has been successfully completed.

DISPLAY	Error 8301 Network error (GAME-LAN)
CAUSE	The connection with the devices that make up this game could not be confirmed.
COUNTERMEASURES	Check the network connection and follow the startup procedures to restart the system.

DISPLAY	Error 8302 Maintenance time (GAME)
CAUSE	Currently the server is undergoing maintenance.
COUNTERMEASURES	Wait until server maintenance is complete.

DISPLAY	Error 8303 Network error (GAME)
CAUSE	A connection could not be established with ALL.Net.
COUNTERMEASURES	Check the RINGWIDE network connection, the in-store network connection and the connection between the ALL.Net router and the network cable, and then follow the startup procedures to restart the system. If the error persists, check the maintenance information.

DISPLAY	Error 8304 Network failed (GAME)
CAUSE	Automatic recovery from the network failure is not possible.
COUNTERMEASURES	Check the RINGWIDE network connection, the in-store network connection and the connection between the ALL.Net router and the network cable, and then follow the startup procedures to restart the system. If the error persists, check the maintenance information.

Other ERROR codes.

DISPLAY	Error 1000 Force Feedback Error
CAUSE	Failed to initialise motor controller during power on cycle.
COUNTERMEASURES	Check all connection to and from Motor Controller. Possible failure of Motor Controller PCB. Replace and restart.

DISPLAY	<TICKET ERROR> PLEASE CONTACT OPERATOR
CAUSE	Ticket has jammed or tickets are empty.
COUNTERMEASURES	Clear ticket jam. Refloat with new tickets. Note: When resetting the error message, please take note of the number of tickets owed to the player as this number of tickets cannot be recalled.

DISPLAY	,<NETWORK FAILURE> PLEASE CONTACT OPERATOR
CAUSE	Communication failure across the network.
COUNTERMEASURES	Check all network cables for damage. Check all network connections to Hub. Check Hub for power. Possible Hub failure.

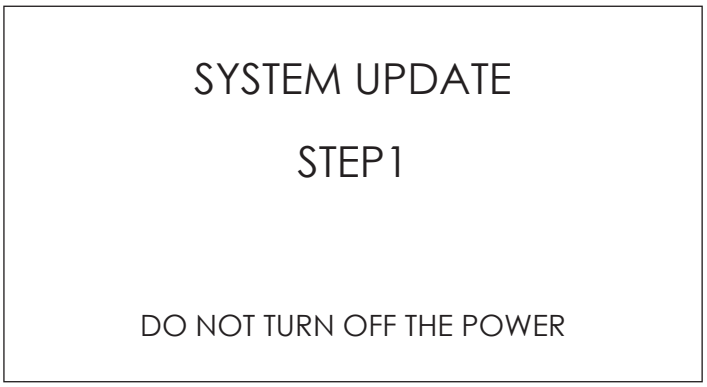
DISPLAY	<NETWORK FAILURE> <CABINET ID CONFLICT> PLEASE CONTACT OPERATOR
CAUSE	Incorrect values given to individual cabinets across the network.
COUNTERMEASRES	See chapter 9-3-4 on setting cabinet identifications

Manual Recovery

Use the following procedure to return the RINGWIDE system software to a previous state.

1 Press the TEST and SERVICE Buttons simultaneously with the RINGWIDE power off.
Hold the buttons down and turn on the power.

2 After RINGWIDE starts up and the following message is displayed, release the buttons.
The system software will recover automatically. The Advertising screen will be displayed once everything finishes. Until it is displayed, do not interfere with the cabinet's operations.
(If you are uninstalling a game, the Install Wait screen will be displayed.)



16-5 REPLACING THE BUTTON BATTERY

⚠ WARNING

- Make sure you do not damage the printed board and wires. Such damage can lead to electric shock, short circuit and fire hazard.
- To prevent overheating, explosion, or fire:
  - Do not recharge, disassemble, heat, incinerate, or short the battery.
  - Do not allow the battery to come into direct contact with metallic objects or other batteries.
  - To preserve the battery, wrap it in tape or other insulating material.
- Follow local regulations when disposing of the battery. Improper disposal can damage the environment.
- Even the site maintenance personnel or other qualified professionals must not perform replacement operations for parts not described in this manual. In the event that such work is required either contact the office listed in this manual or first confirm the procedure with the place or office of purchase. Failure to do so may lead to electric shock or short circuit.
- Do not turn on the power with current carrying parts exposed. Doing so could result in electric shock or short circuit.

⚠ CAUTION

To avoid risk of malfunction and damage:

- Make sure the positive and negative ends are aligned correctly.
- Use only batteries approved for use with this unit.

STOP IMPORTANT

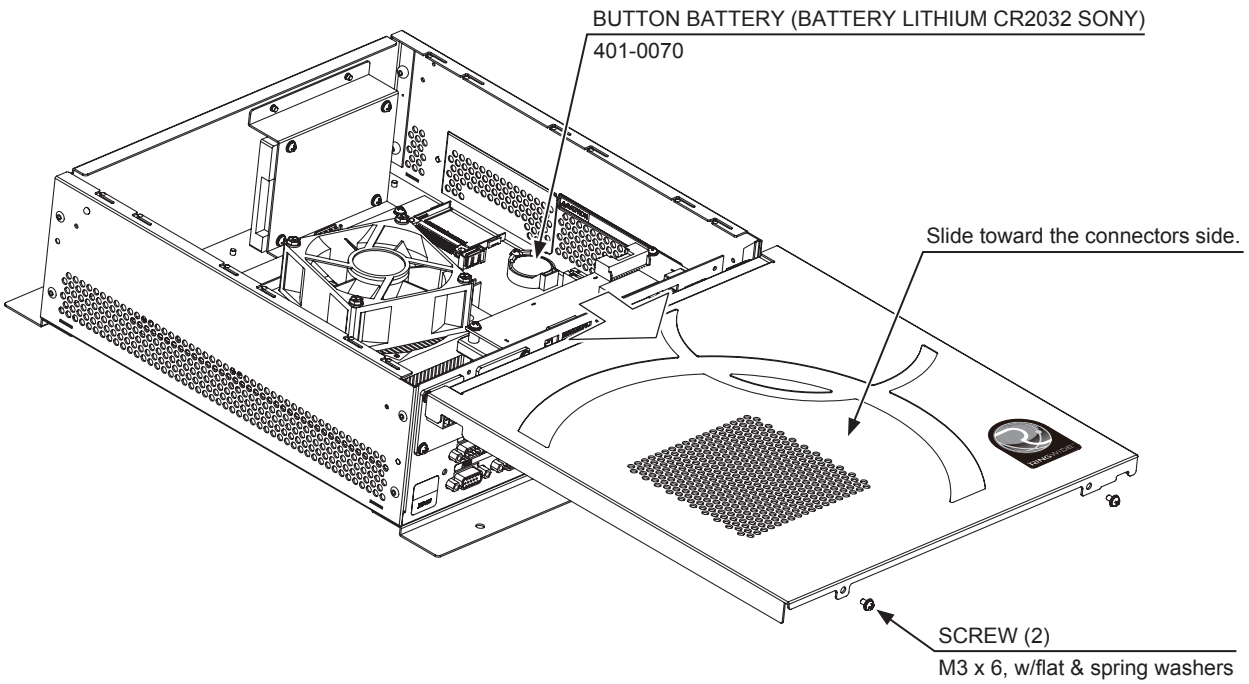
- The batteries in RINGWIDE can be used for approximately 4 years of standard usage. If the battery appears to require replacement sooner than 4 years it is more likely that an error has occurred with some other part of the board. Rather than exchanging the battery requesting repair of the board itself may be more appropriate.
- Static electricity from your body may damage some electronics devices on the IC board. Before handling the IC board, touch a grounded metallic surface so that the static electricity can be discharged.

The button battery that require replacement can be found on the main board, inside the RINGWIDE shield case.

1 Remove the unit on which RINGWIDE is placed from the game cabinet.
RINGWIDE must be removed still attached to the base (wooden shelf, etc.).

2 Remove 2 screws for the RINGWIDE lid. The screws are on top of the connector side.

3 Slide the lid toward the side with the connectors, and remove it.


BUTTON BATTERY (BATTERY LITHIUM CR2032 SONY)
401-0070
Slide toward the connectors side.
SCREW (2)
M3 x 6, w/flat & spring washers

4 The main board is the board on the bottom of the RINGWIDE shield case.
After replacing the main board's button battery, refer to Step 3 and close the lid.

16-6 CLEANING RINGWIDE

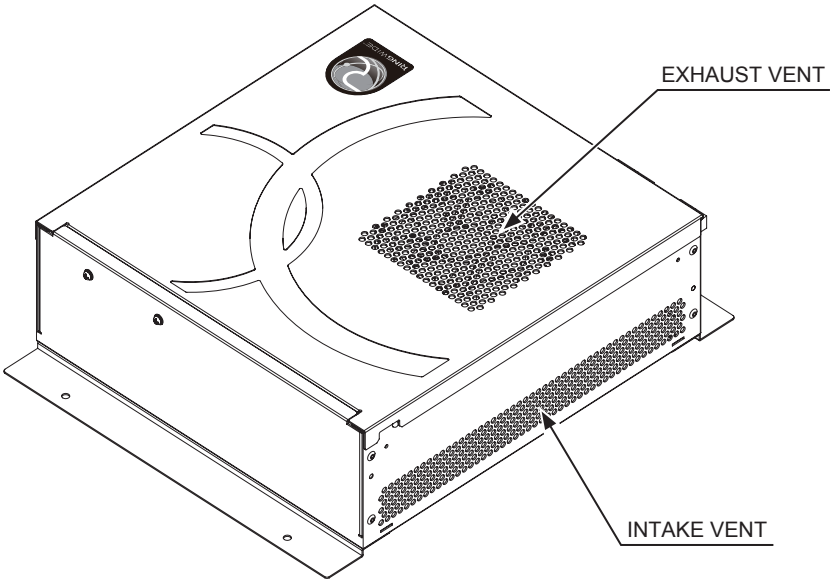
IMPORTANT

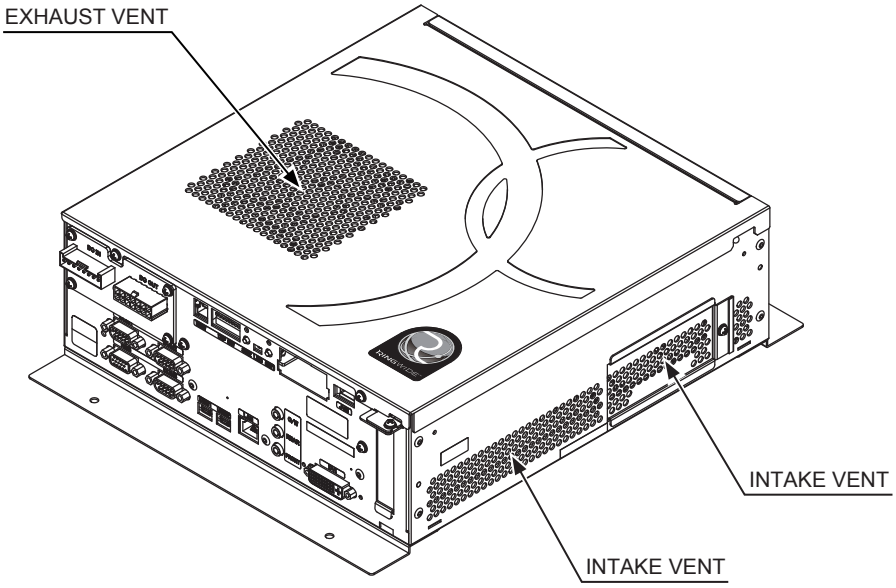
- **Clean RINGWIDE once a year or whenever either "Error 0090" or "Error 0091" occurs. Dust accumulating in game boards may not function properly.**
- **Set each cabinet to correct settings after cleaning the product. Be sure to set RINGWIDE to correct settings when returning. If the proper settings are not used, the units may not function properly.**

Once a year remove RINGWIDE from the cabinet and use a vacuum cleaner to clean around the RINGWIDE's air vents and installation area.

1 Refer to the manual included with the game machine, and remove RINGWIDE from the cabinet.

2 Clean around the intake/exhaust vents of RINGWIDE with a vacuum cleaner.





3 Clean around installment parts of RINGWIDE in the cabinet with a vacuum cleaner.
Be sure not to damage wirings and boards. Electronic devices on boards may damage by static electricity,
and be sure not to vacuum electronic devices by a vacuum cleaner.

4 Set each RINGWIDE you removed by the reverse method.

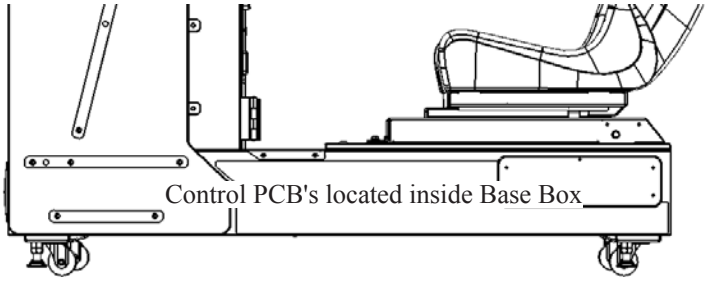
16-7 GAME BOARD (RINGWIDE) - LOCATION

⚠ WARNING

• When returning the game board after making repairs or replacements, make sure that there are no errors in the connection of connectors. Erroneous connections can lead to electrical shock, short circuits or fires.

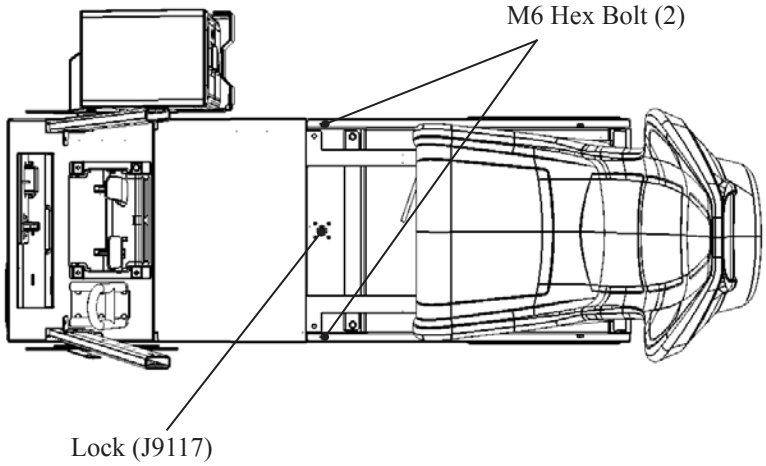
• When connecting a connector, check the direction carefully. Connectors must be connected in only one direction. If indiscriminate loads are applied in making connections, the connector or its terminal fixtures could be damaged, resulting in electrical shock, short circuits or fires.

1 The machine is fitted with a Ringwide Game Board and several other Ancilliary Boards which are mainly housed inside the Base Box. Only qualified Personnel should attempt to Service these Units.

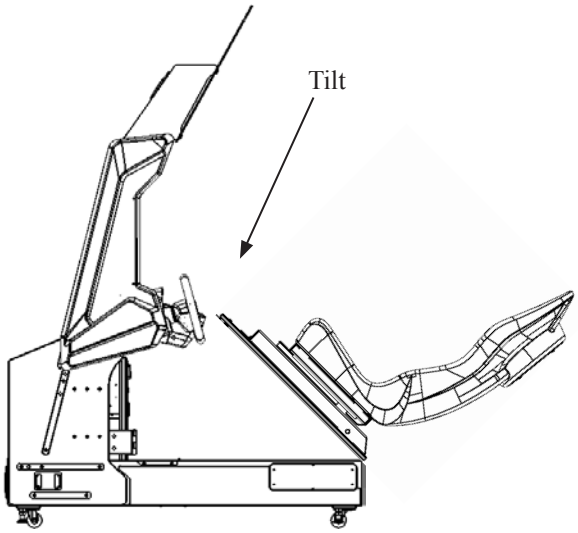


The Game Board Unit is located under the Player Seat, and to gain access the following procedure should be carried out.

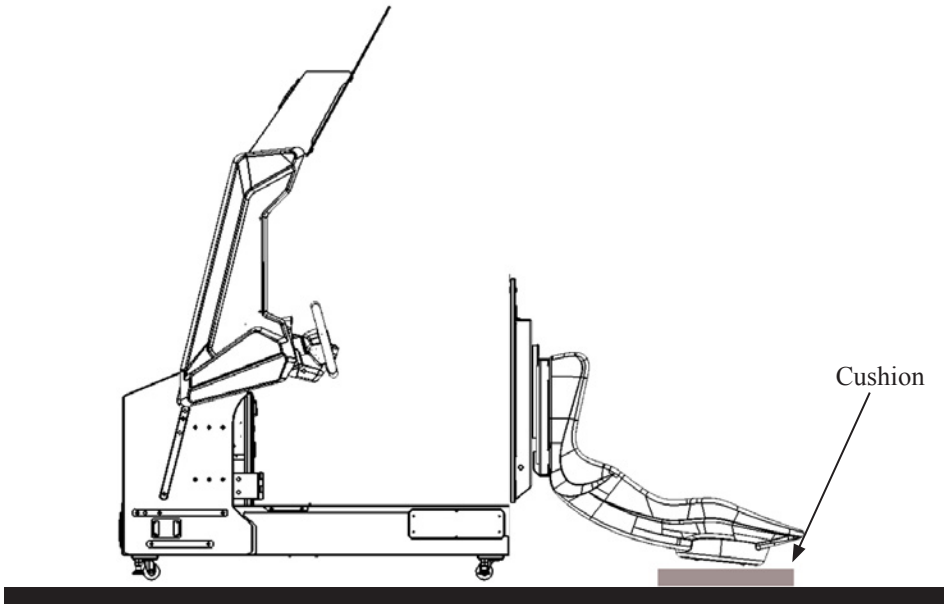
Unlock the Seat Lid and then remove the M6x16 Hex Bolt located on each edge of the Lid.



2 Once released, the Seat Lid may be opened by tilting it backwards.
Due to the weight of the unit, great care should be taken when opening the Seat Lid, if dropped Impact Damage is likely to occur.



Before opening the unit, a protective cushion or padding should be placed on the ground in the approximate position where the seat back will touch the floor. This is to help prevent the back of the seat from getting scratched and marked and when opening, the back of the seat should be carefully lowered to the floor, placing it on the protective cushion.

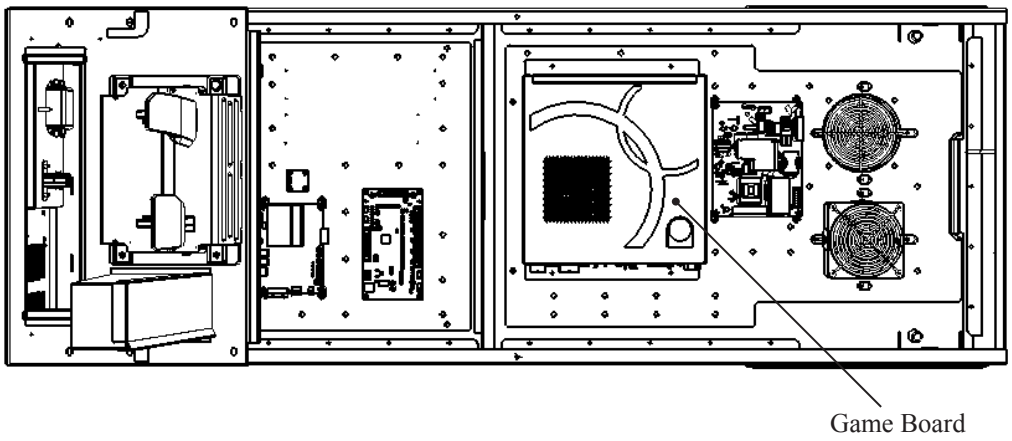


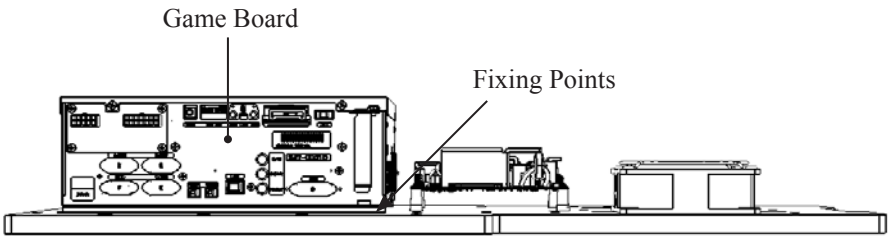
⚠ CAUTION

GREAT CARE SHOULD BE TAKEN WHEN OPENING AND CLOSING THIS UNIT.

LIKELY CHANCE OF MACHINE DAMAGE OR PERSONNEL INJURY IF UNIT IS DROPPED DURING OPENING AND CLOSING.

3 The Assy Game Board is located to the rear of the cabinet. The Game Board can be removed from this assembly by removing the (4) fixings which retain it to the wooden base.





⚠ CAUTION

Do not open the Game Board without the express permission of SEGA. If for any reason entry has been gained into the Game Board without the permission of SEGA, then all warranty rights become void.

When returning the Game Board to SEGA for service, then please make sure that adequate packaging is used as damage in transit make occur.

17 COMMUNICATION PLAY

For this game, up to 8 machines can be networked together allowing up to 8 players to play simultaneously. In this instance, connecting the communication cable and adjustment to the settings for communication play will be required.

17-1 INSTALLATION PRECAUTIONS

⚠ WARNING

- **Before starting to work, ensure that the Power SW is OFF. Failure to observe this can cause electric shock or short circuit.**
- **Use care so as not to damage wirings. Damaged wiring can cause electric shock or short circuit.**
- **Do not touch undesignated places. Touching places not designated can cause electric shock or short circuit.**
- **The work described below should be carried out by the site maintenance personnel or other qualified professional. Work carried out by personnel without the necessary skill or technology can cause accident.**
- **To perform work safely and avoid serious accident such as the cabinet falling down, do not perform work in places where step-like grade differences, a ditch, or slope exist.**
- **To prevent accidents while working or while operating the product after it has been installed, be sure not to conduct any procedures other than those given in this manual. There are cases in which procedures not covered in this manual require special tools and skills. If a procedure not given in this manual is required, request service from the office given in this manual or from the point of purchase.**

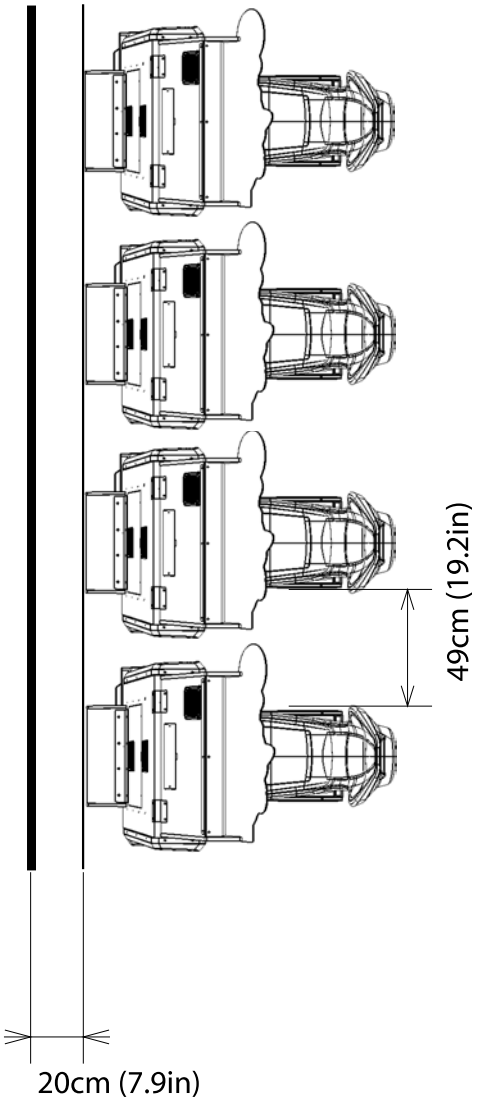
⚠ CAUTION

- **To perform work safely, be sure to secure the space corresponding to number of machines to be linked. Failure to observe this can cause accident.**
- **To avoid accidents, use a cable cover that will not cause patrons to trip when laying network cables in areas of heavy foot traffic.**
- **To prevent accidents and acts of vandalism, cover the network cables with the strongest cover possible.**

Since 2 or more machines are to be linked, sufficient power corresponding to the number of machines used need to be supplied. Note that as a standard, the per machine capacity should be 14A for the 100-120V area, and 6A for the 220-240V area.

Distance between Machines

The maximum distance between the game machines depends on the length of the cables connecting them, but make sure the units are separated from each other by at least 49 cm (19.2 in) so that players can pass between them.



17-1 Fig 01

17-2 CONNECTING THE COMMUNICATION CABLE

To enable network play, the Hubs inside each of the game machines involved must be connected with network (LAN) cables. Up to a maximum of 8 machines (8 Players) can be Networked together, all that's required is to connect an an external Hub (supplied seperately) between each of the machines that are to complete the 'Network'.
Do not connect LAN cables to game machines when they are not used for network play.

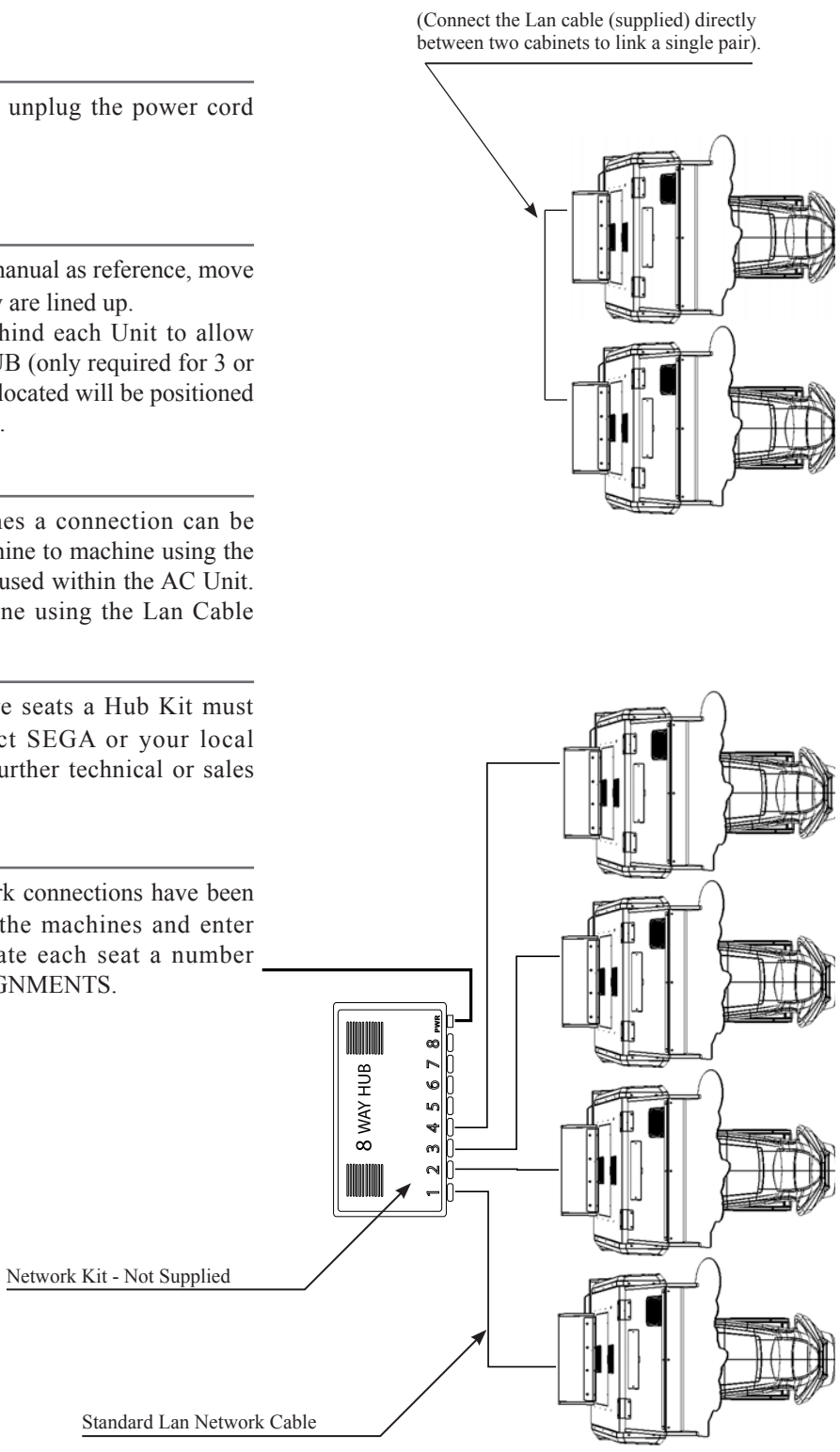
1 Turn off the power and unplug the power cord from the outlet.

2 Using Chapter 6 of this manual as reference, move the machines so that they are lined up.
Leave enough space behind each Unit to allow access for a Network HUB (only required for 3 or more seats) which when located will be positioned near the Master Machine.

3 When linking 2 machines a connection can be made directly from machine to machine using the Lan connection point housed within the AC Unit. Connect the two machine using the Lan Cable (Supplied).

4 When linking 3 or more seats a Hub Kit must be used. Please contact SEGA or your local distributors office for further technical or sales information

5 Once the desired Network connections have been established, power on the machines and enter TEST MODE to allocate each seat a number within the GAME ASSIGNMENTS.


(Connect the Lan cable (supplied) directly between two cabinets to link a single pair).
8 WAY HUB
PWR
1 2 3 4 5 6 7 8
Network Kit - Not Supplied
Standard Lan Network Cable

A typical illustration of 4 seats in a network

17-3 NETWORK PLAY SETTINGS

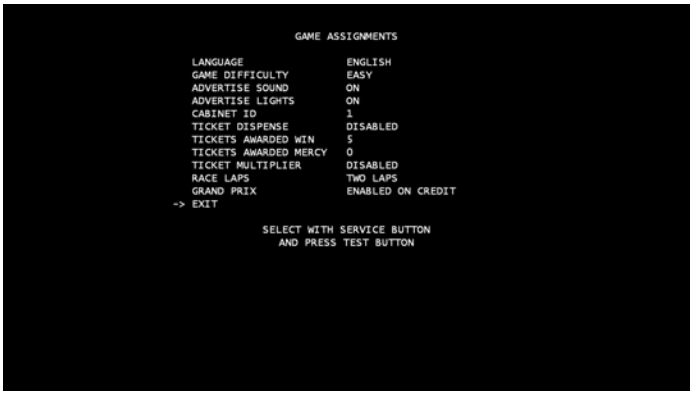
Each of the linked machines must be set up for network play. If the machines are not set up correctly, network play will not be possible.
For this game, up to 8 machines can be connected to allow up to 8 players to play simultaneously.

1 Turn on the power on each machine to be used in network play.

2 Initiate TEST MODE on ALL machines.

3 Select the GAME TEST MODE and press the Test button to display the GAME TEST MENU screen.

4 Select the GAME ASSIGNMENTS in the GAME TEST MENU screen and press the Test button.



5 Perform the CABINET ID setting. Set the different ID number to each machine. Be sure to assign one of them with the ID number of "1"

6 Cause all of the machines to exit from the TEST MODE. Always select EXIT in the SYSTEM TEST MENU screen.

STOP IMPORTANT

- **ONLY USE STANDARD LAN OR NETWORK CABLES FOR COMMUNICATION PLAY. DO NOT USE NETWORK CROSSOVER CABLES AS THESE MAY CAUSE DAMAGE TO THE GAME BOARD OR HUB.**

18 DESIGN-RELATED PARTS

For the warning display stickers, refer to Section 1.

SSR-0507UK - BILLBOARD PLATE

SSR-1356UK - CENTRE PNL SPKR LEADER

SSR-1651-BUK - STKR SEAT UPPR

SSR-1654UK - WOOFER PLATE

SSR-1654UK - WOOFER PLATE

SSR-0507-BUK - STKR INSERT #1

SSR-0507-CUK - STKR INSERT #2

SSR-0507-DUK - STKR INSERT #3

SSR-0507-EUK - STKR INSERT #4

SSR-0507-FUK - STKR INSERT #5

SSR-0507-GUK - STKR INSERT #6

SSR-0507-HUK - STKR INSERT #7

SSR-0507-HUK - STKR INSERT #8

SSR-2001-BUK - METER PANEL

SSR-2001-BUK - METER PANEL

SSR-2001-BUK - METER PANEL

SSR-1209UK - SIDE PANEL L

SSR-1651-CUK - STKT SEAT LWR

SSR-1210UK - SIDE PANEL R

SSR-1505UK - STICKER MAIN BASE REAR

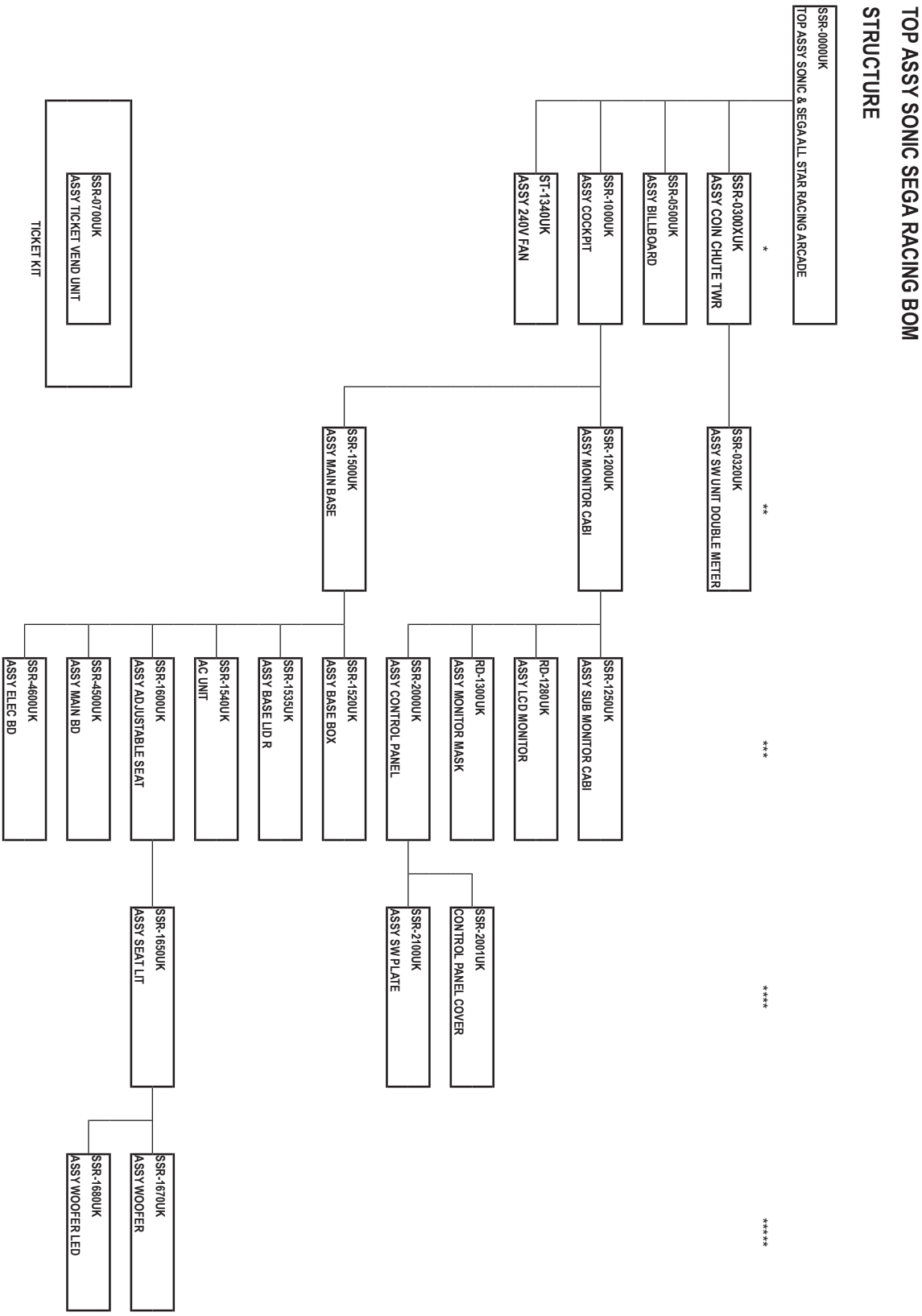
SSR-1654UK - WOOFER PLATE

SSR-1654UK - WOOFER PLATE

SSR-1654UK - WOOFER PLATE

19 PARTS LIST

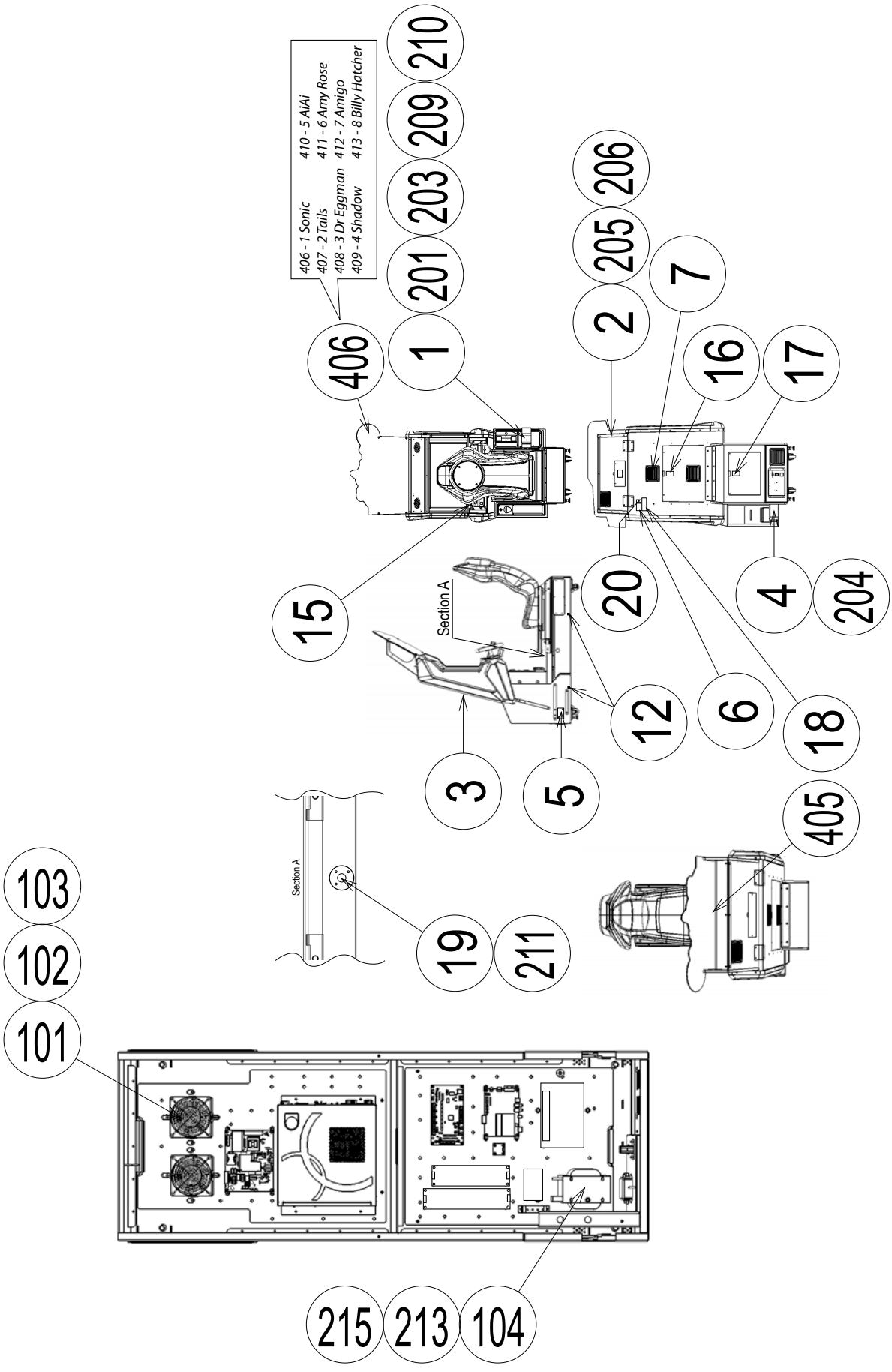
ASSY TOP SONIC SEGA RACING STRUCTURE



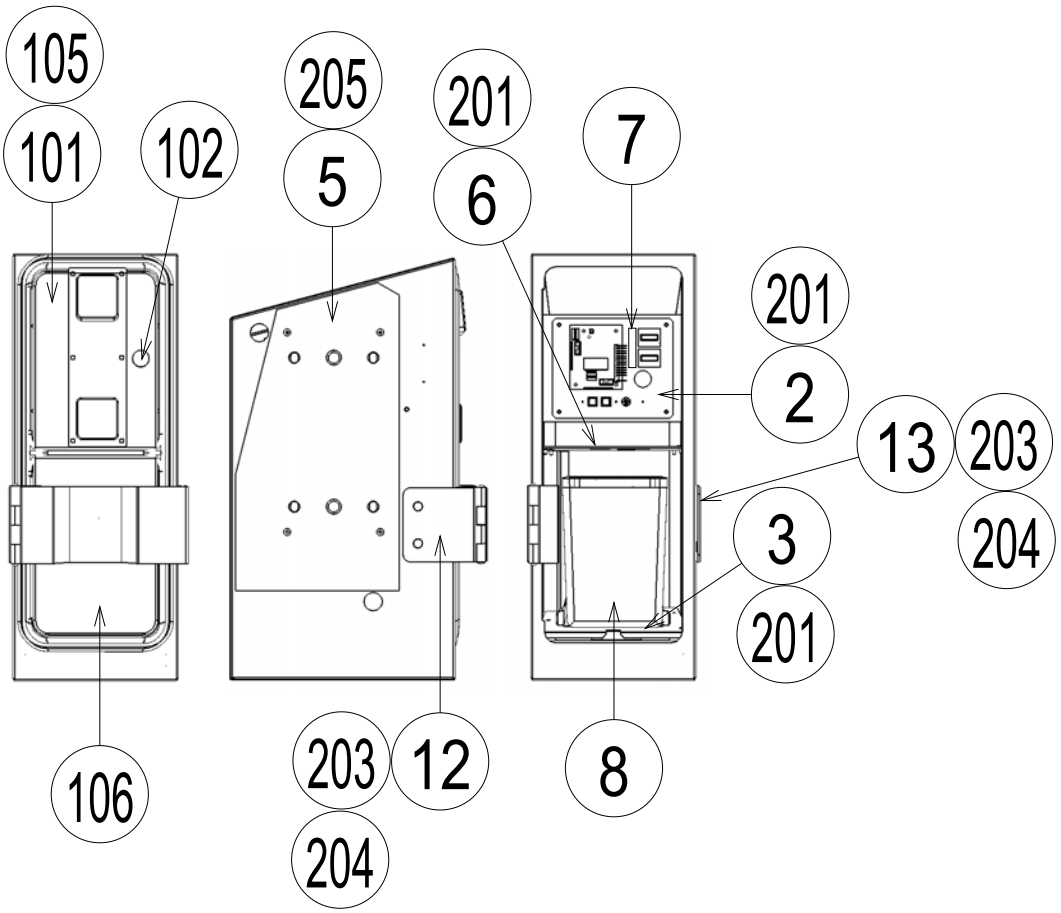
① ASSY TOP SONIC SEGA RACING (SSR-0002UK) (D-1/2)

ITEM NO	PART NUMBER	DESCRIPTION	QTY
*1	SSR-0300XUK	ASSY COIN CHUTE TOWER STD	1
*2	SSR-0500UK	ASSY BILLBOARD	1
*3	SSR-1000UK	ASSY COCKPIT	1
*4	RD-0001UK	WIRE COVER	1
*5	RD-0004UK	PLATE CCT BLANK	1
*6	421-7988-91UK	STICKER SERIAL NUMBER UK	1
*7	ST-1340UK	ASSY FAN 240VAC	1
*12	440-WS0100UK	STICKER CAUTION FORK	2
*15	440-CS0186UK	STICKER C EPILEPSY MULTI	1
*16	440-WS0030UK	STICKER CAUTION	1
*17	440-WS0010UK	STICKER DANGEROUS VOLTAGE	2
*18	LB1046	LABEL TESTED FOR ELEC. SAFETY	1
*19	RAL-XXXX-13UK	LOCK COVER UK	1
*20	LB1130	LABEL WEEE WHEELIE BIN	1
*101	260-0024-01UK	FAN AC AXIAL DP 200A	2
*102	FN1012	FAN GUARD METAL 120MM (FG-12)	2
*103	001195	RIVIT SNAP MOSS SR1811	8
*104	560-2410-03UK	TRANSFORMER UK 240-100 3A (EU & ASIA ONLY)	1
*201	050-F00800	M8 NUT FLG	4
*203	068-852216	M8 WSHR 22OD FLT PAS	4
*204	000-P00408-WB	M4X8 MSCR PAN W/FS BLK	2
*205	030-000625-SB	M6X25 BLT W/S BLK	4
*206	068-652016-0B	M6 WSHR 20OD FLT BLK	4
*209	000-P00412-W	M4X12 MSCR PAN W/FS PAS	1
*210	060-F00400	M4 WSHR FORM A FLT PAS	1
*211	008-T00408-0C	M4X8 TMP PRF TH CRM	4
*212	000-P00416-W	M4X16 MSCR PAN W/FS PAS	12
*213	012-P00410-F	N8X3/8" S/TAP FLF PAS	8
*215	068-441616	M4 WSHR 16OD FLT PAS	4
*301	600-7270-0200UK	LAN CABLE X-OVER 200CM NOT	1
*302	ST-60026UK	WH 240V FAN (NOT SHOWN)	2
*303	SSR-60001UK	WH AC TO XFMR (NOT SHOWN)	1
*405	SSR-0507UK	BILLBOARD PLATE	1
*406	SSR-0507-BUK	STICKER BILLBOARD INSERT No1 (Sonic)	1
*407	SSR-0507-CUK	STICKER BILLBOARD INSERT No2 (Tails)	1
*408	SSR-0507-DUK	STICKER BILLBOARD INSERT No3 (Dr Eggman)	1
*410	LM1227	UK MAINS LEAD 10A WITH PLUG	1
*411	LM1246	EUROLEAD 10A EUROPEAN SOCKET	1
*412	420-0012-01UK	MANUAL OSM SSR	1
*413	420-7210-01	MANUAL RINGWIDE	
*415	PK0467	PALLET RD STD	1
*417	PK0469	BOX RD BILLBOARD	1
*418	SSR-0507-EUK	STICKER BILLBOARD INSERT No4	1
*419	SSR-0507-FUK	STICKER BILLBOARD INSERT No5	1
*420	SRS-0507-GUK	STICKER BILLBOARD INSERT No6	1
*421	SSR-0507-HUK	STICKER BILLBOARD INSERT No7	1
*422	SSR-0507-JUK	STICKER BILLBOARD INSERT No8	1
*450	SSR-0507-08UK	BILLBOARD PLATE CHN (CHINA EXPORT ONLY)	1

① ASSY TOP SONIC SEGA RACING (SSR-0002UK) (D-2/2)

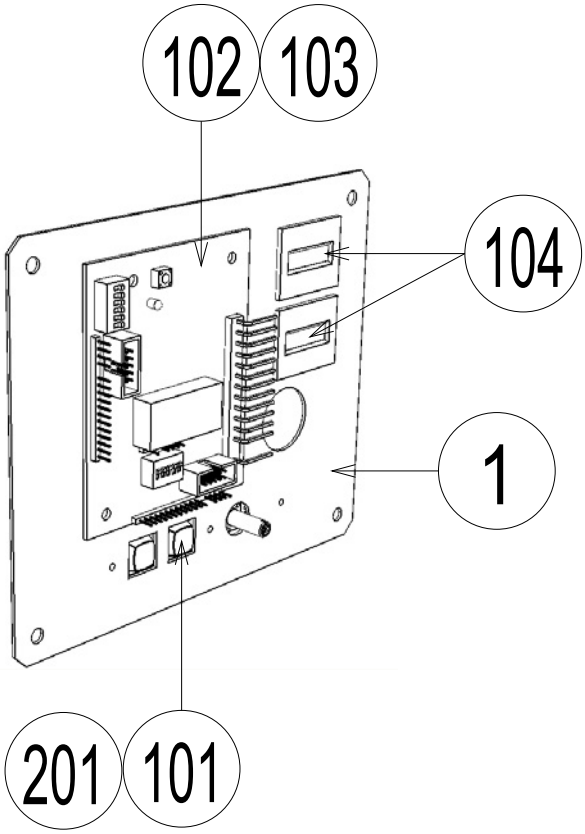


② ASSY COIN CHUTE TOWER (RD-0300X-01UK) (D-1/1)



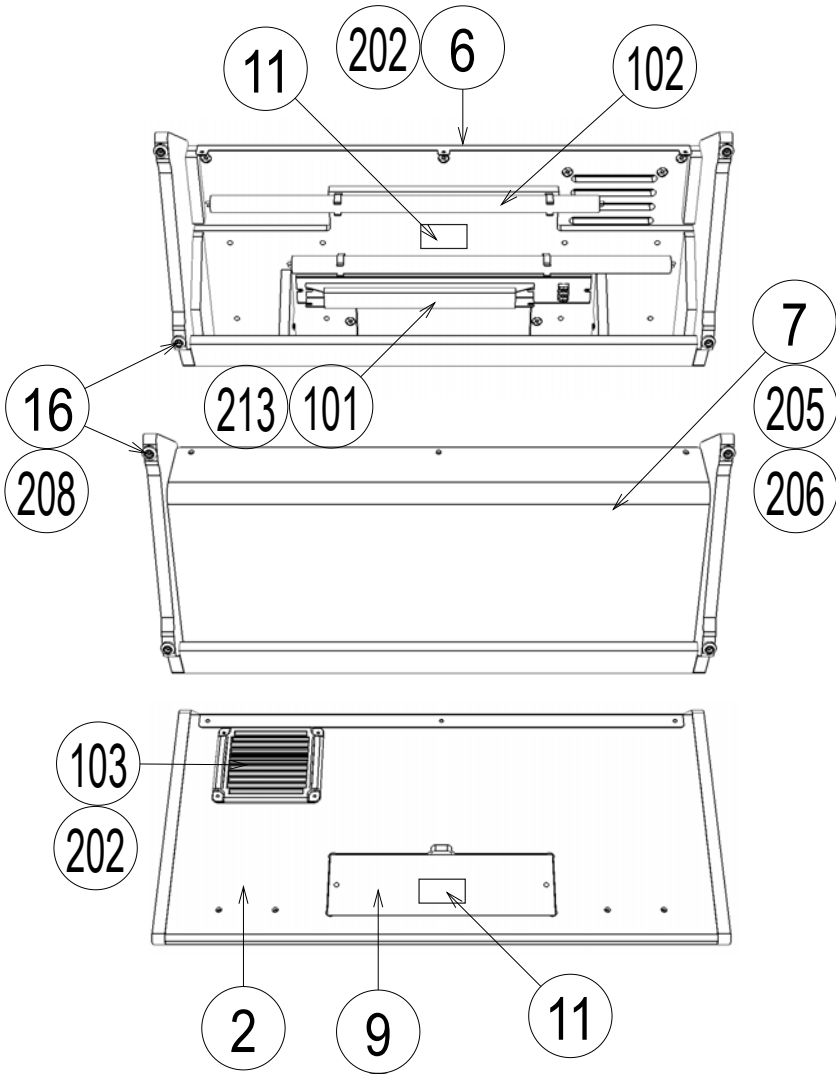
ITEM NO	PART NUMBER	DESCRIPTION	QTY
**1	SSR-0301XUK	COIN CHUTE TOWER	1
**2	SSR-0320UK	ASSY SWITCH UNIT	1
**3	RD-0353UK	CCT FLOOR	1
**5	RD-0305UK	SPACER CCT STD	1
**6	RD-0352UK	COIN PATH PLATE	1
**8	PP1087	BOX CASH FOR MINI DOOR	1
**12	TFF-0304UK	LOCKING HASP	1
**13	TFF-0305UK	BRKT PADLOCK	1
**101	220-5374-01	DOOR DFMD W/FR&LOCK C120 UNIV	1
**102	220-5575UK	LOCK (J9117) KEY TO LIKE 22MM W CAM	1
**103	VTS-FRI-T-R	VTS BOARD FRI TWIN	1
**104	OS1247	ALUMINIUM STICK CLIP	3
**105	220-5610-01	SR3 STD BODYBSR3INGB	1
**106	220-5727-01B	DOOR CASH H.S. STS	1
**201	000-P00410-W	M4X10 MSCR PAN W/FS PAS	11
**203	050-U00800	M8 NUT NYLOK PAS	4
**204	068-852216	M8 WSHR 22OD FLT PAS	4
**205	000-F00408	M4X8 MSCR CSK PAS	4
**302	LM1006LOR	LOOM COIN MECH LAMP	1
**303	600-9020-44K	WH EARTH 20CM M4M4	1

③ ASSY SW UNIT DOUBLE METER (SSR-0320UK) (D-1/1)



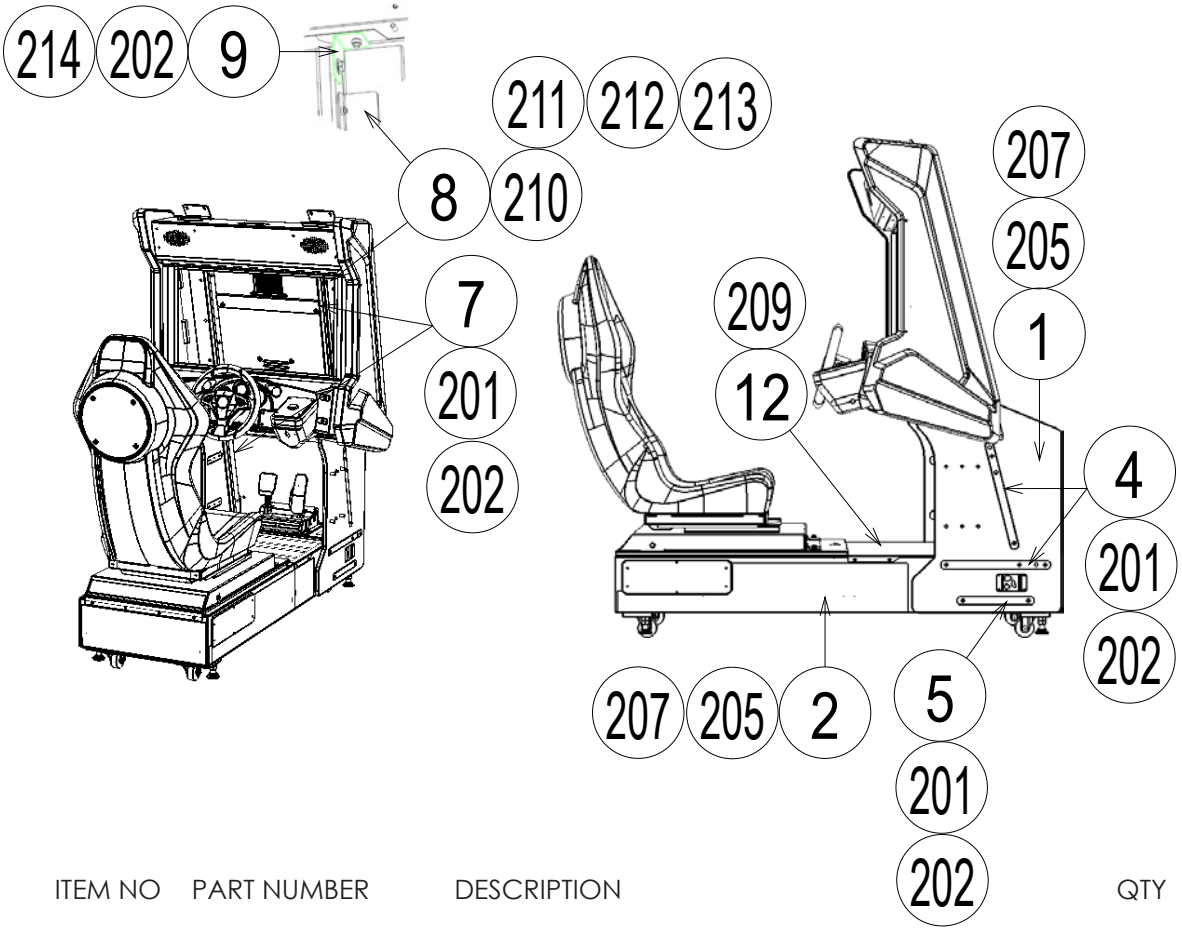
ITEM NO	PART NUMBER	DESCRIPTION	QTY
***1	RD-0321UK	SW BRKT DUAL COUNTER	1
***101	838-14548-01UK	SW & VOL CTL BD	1
***102	280-L00706-PM	STANDOFF 6.4MM HOLE PM	4
***103	EP1380-01	CREDIT BOARD EXCEL	1
***104	220-5643UK	COIN METER SMALL 12V	1
***105	OS1247	ALUMINIUM STICKY CLIP	1
***107	OS1098	CRIMP BELL END SMALL	4
***108	601-0460	CABLE TIE 100MM	2
***201	000-P00308-W	M3X8 MSCR PAN W/FS PAS	3
***301	RD-60003UK	WH COIN HANDLING *(Not Shown)*	1

④ ASSY BILLBOARD (RD-0500UK) (D-1/1)



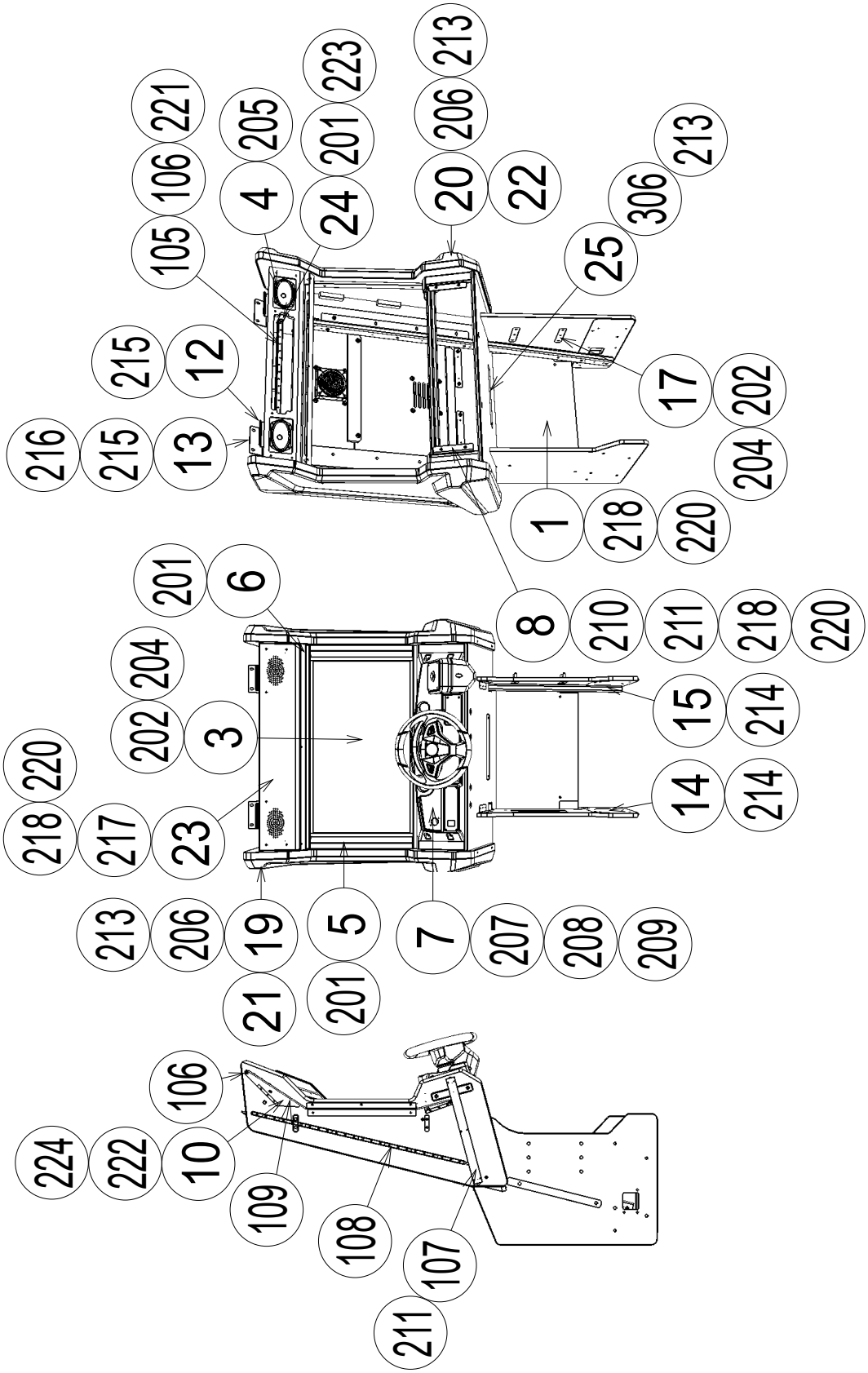
ITEM	PART NUMBER	DESCRIPTION	QTY
**2	SRS-0501UK	BILLBOARD BOX	1
**6	RD-0505UK	BACK BOARD BRKT	1
**7	SSR-0506UK	BACK BOARD	1
**9	RD-0508UK	BACK LID	1
**11	440-WS0011UK	STICKER HIVOLT/HEAT	2
**16	280-6696UK	5.5-20X6.3 WSHR SPCL	4
**101	390-240-18-2UK	FL TRAY 240V 2X18W	1
**102	390-0100-18DUK	FL TUBE 18W T8 600MM	2
**103	253-5460-01	AIR VENT BLACK	1
**104	280-A00964-WX	ROUTER TWIST D09 SO6.4 WOOD X	8
**202	000-T00416-0B	M4X16 MSCR TH BLK	9
**205	000-T00412-0C	M4X12 MSCR TH CRM	3
**206	068-441616-0C	M4 WSHR 16OD FLT CRM	3
**208	FAS-290034	M5X15 HEX SKT LH CAP SCR STN	4
**213	000-P00410-W	M4X10 MSCR PAN W/FS PAS	6
**301	RD-60031UK	WH FL UNIT	1

⑤ ASSY COCKPIT (SSR-1000UK) (D-1/1)



ITEM NO	PART NUMBER	DESCRIPTION	QTY
**1	SSR-1200UK	ASSY MONITOR CABI	1
**2	SSR-1500UK	ASSY MAIN BASE	1
**4	RD-1001UK	MON CABI PLATE UPPER	4
**5	RD-1002UK	MON CABI PLATE LOWER	2
**7	RD-1004UK	STRUT CABINET SUPPORT	2
**8	RD-1005UK	BRKT OUTER CABI SUPP	2
**9	RD-1007UK	BRKT TOP CABI SUPP	2
**12	RD-1502UK	BASE LID F	1
**14	RD-1011UK	PLATE CONN BASE BOX	1
**15	SSR-1011UK	PLATE CONN BASE BOX TICKET	1
**201	030-000840-SB	M8X35 BLT W/S BLK	14
**202	068-852216-0B	M8 WSHR 22OD FLT BLK	18
**205	050-F00400	M4 NUT FLG SER PAS	3
**207	060-F00400	M4 WSHR FORM A FLT PAS	3
**209	000-T00512-0C	M5X12 MSCR TH CRM	4
**210	030-000635-S	M6X35 BLT W/S PAS	6
**211	031-000640-0B	M6X40 CRG BLT BLK	8
**212	068-652016	M6 WSHR 20OD FLT PAS	14
**213	050-F00600	M6 NUT FLG SER PAS	8
**214	030-000830-S	M8X30 BLT W/S PAS	4
**218	000-P00412-WB	M4X12 MSCR PAN W/FS BLK	6
**305	600-9060-44K	WH EARTH 60CM M4M4	2
**307	600-7009-2500UK	ASSY RGB CA D-SUB 15	1

⑥ ASSY MONITOR CABI (RD-1200UK) (D-1/3)



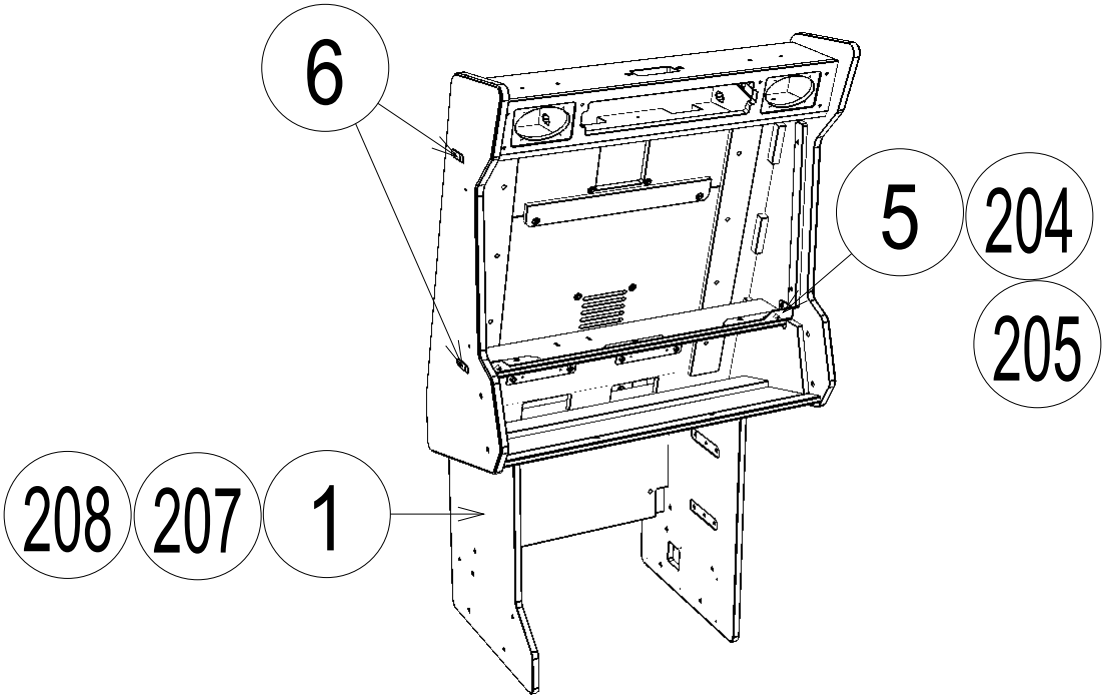
⑥ ASSY MONITOR CABI (RD-1200UK) (D-2/3)

ITEM NO	PART NUMBER	DESCRIPTION	QTY
***1	SSR-1250UK	ASSY SUB MONITOR CABI	1
***3	RD-1280UK	ASSY LCD MONITOR	1
***4	130-5284	SPEAKER 8OHM F01612HO NJS	2
***5	RD-1300UK	ASSY MONITOR MASK	1
***6	RD-1355UK	BRKT SPKR PNL LWR	1
***7	RD-2000UK	ASSY CONTROL PANEL	1
***8	RD-1201UK	CTRL PNL SUPPORT	1
***9	RD-1202UK	CTRL PNL PLATE	2
***10	SSR-1223UK	SIDE PANEL & LIGHT HOLDER L	1
**11	SSR-1224UK	SIDE PANEL & LIGHT HOLDER R	1
***12	RD-1205UK	BILLBOARD SUPPORT	2
***13	RD-1206UK	BILLBOARD HOLDER	2
***14	RD-1207UK	MONITOR CABI SPACER L	1
***15	RD-1208UK	MONITOR CABI SPACER R	1
***16	RD-1212UK	CONN PNL BILLBOARD	1
***17	RD-1214UK	CHUTE TOWER HOLDER	2
***19	SSR-1209-AUK	SIDE PANEL BLK L BLANK	1
***20	SSR-1210-AUK	SIDE PANEL BLK R BLANK	1
***21	SSR-1209-BUK	STICKER SIDE PANEL L	1
***22	SSR-1210-BUK	STICKER SIDE PANEL R	1
***23	SSR-1356UK	CENTRE PNL SPKR LEADER	1
***24	RD-0533UK	LED BAR BRKT	1
***25	RD-1218UK	COVER FOOTWELL LIGHT	1
***26	SSR-1225UK	LIGHT COVER CHEEK SHORT	2
***27	SSR-1226UK	LIGHT COVER CHEEK LONG	2
***101	253-5460-01	AIR VENT BLACK	2
***105	838-14972-07	LED BD WHITE 3X7BLOCK	1
***106	280-L00605-OS	STANDOFF 6.35OD 3.56ID 4.76L	4
***107	SSR-60022-040UK	WH LED ASSY 400	2
***108	SSR-60022-080UK	WH LED ASSY 800	2
***109	SSR-60022-110UK	WH LED ASSY 1100	2
***110	280-L1316-OS	STANDOFF 12.7OD 5.56ID 15.88L	4
***201	000-P00416-WB	M4X16 MSCR PAN W/FS BLK	13
***202	050-F00600	M6 NUT FLG SER PAS	6
***204	068-652016	M6 WSHR 20OD FLT PAS	6
***205	012-P03512-F	N6X1/2" S/TAP FLG PAS	8
***206	068-441616-0B	M4 WSHR 16OD FLT BLK	27
***207	FAS-290017	M8X30 SKT CAP BH BLK	6
***208	060-F00800-0B	M8 WSHR FORM A FLT BLK	6
***209	068-852216-0B	M8 WSHR 22OD FLT BLK	2
***210	030-000835-SB	M8X35 BLT W/S BLK	4
***211	012-P03512-F	N6X1/2" S/TAP FLG PAS	30
***213	000-T00412-0B	M4X12 MSCR TH BLK	20
***214	012-F003512	N6X1/2" S/TAP CSK PAS	12
***215	030-000620-SB	M6X20 BLT W/S BLK	8

⑥ ASSY MONITOR CABI (RD-1200UK) (D-3/3)

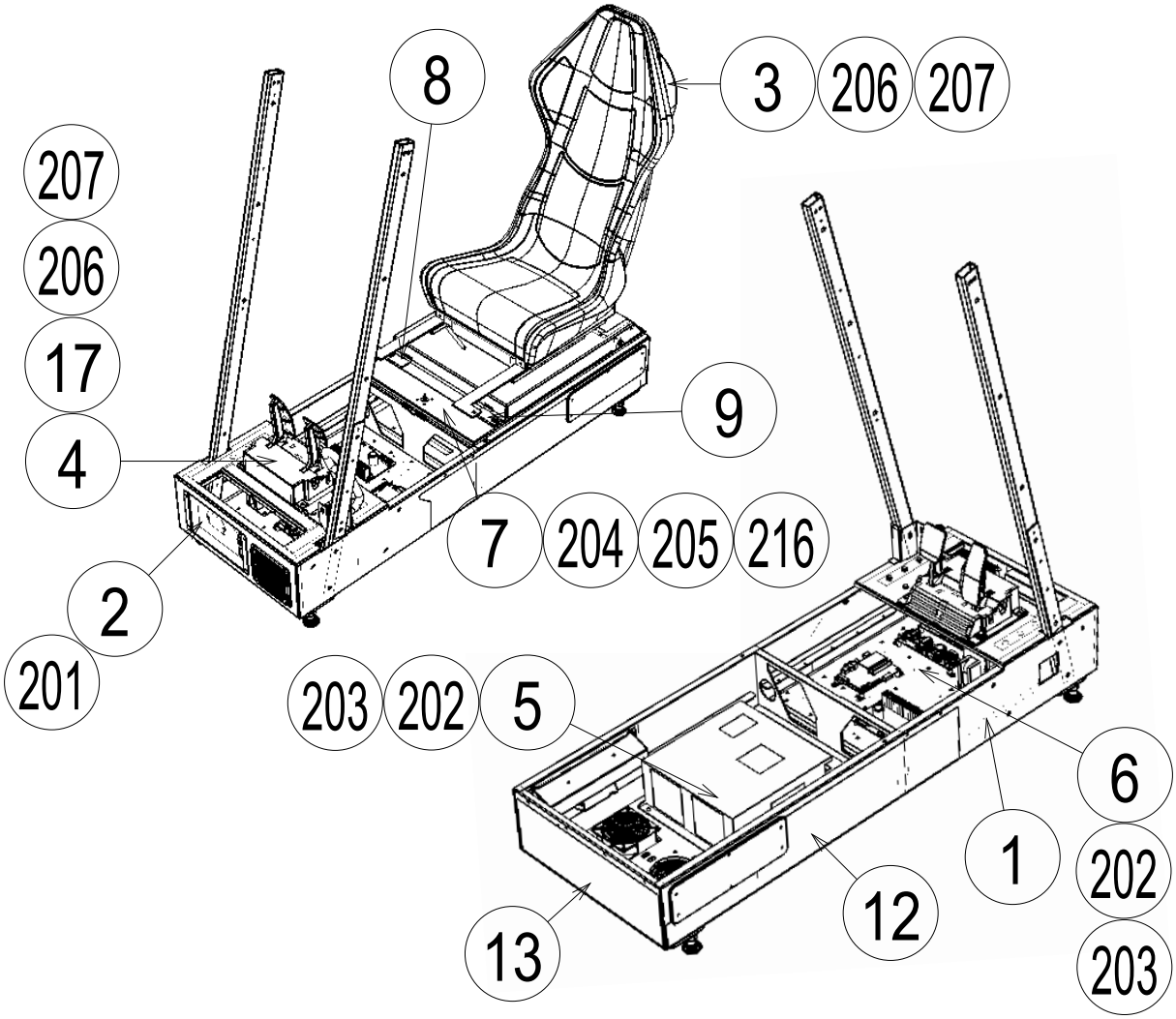
ITEM NO	PT NUMBER	DESCRIPTION	QTY
***216	068-652016-0B	M6 WSHR 20OD FLT BLK	4
***217	000-T00416-0B	M4X16 MSCR TH BLK	14
***218	050-F00400	M4 NUT FLG SER PAS	8
***220	060-F00400	M4 WSHR FORM A FLT PAS	8
***221	000-P00312-PN	M3X12 MSCR PAN NYLON NAT	4
***222	000-P00420-WB	M4X20 MSCR PAN W/FS BLK	4
***223	068-441616	M4 WSHR 16OD FLT PAS	2
***224	000-P00410-W	M4X10 MCR PAN W/FS PAS	2
***225	000-F00316	M3X16 MSCR CSK PAS	4
***226	060-F00500	M5 WSHR FORM A FLT PAS	4
***227	000-T00425-0B	M4X25 MSCR TH BLK	6
***301	RD-60004UK	WH LED FRONT CABI	1
***303	SSR-60017UK	WH CNTL PNL EXTN	1
***304	RD-60029UK	WH AC BB LCD	1
***306	RD-60038-020UK	WH LED ASSY 200	1
***307	RD-60020UK	WH SPEAKER D	2
***308	RD-60018UK	WH RACE LEADER	1

⑦ ASSY SUB MONITOR CABI (SSR-1250UK) (D-1/1)



ITEM NO	PART NUMBER	DESCRIPTION	QTY
****1	SSR-1251UK	MONITOR CABINET	1
****5	RD-1255UK	MONITOR SUPPORT	2
****6	RD-1256UK	MONITOR SUPPORT PLATE	4
****204	030-00630-SB	M8X30 BLT W/S BLK	14
****205	068-652016	M6 WSHR 20OD FLT PAS	3
****207	000-P00430-WB	M4X30 MSCR PAN W/FS BLK	4
****208	068-441616-0B	M4 WSHR 16OD FLT BLK	4

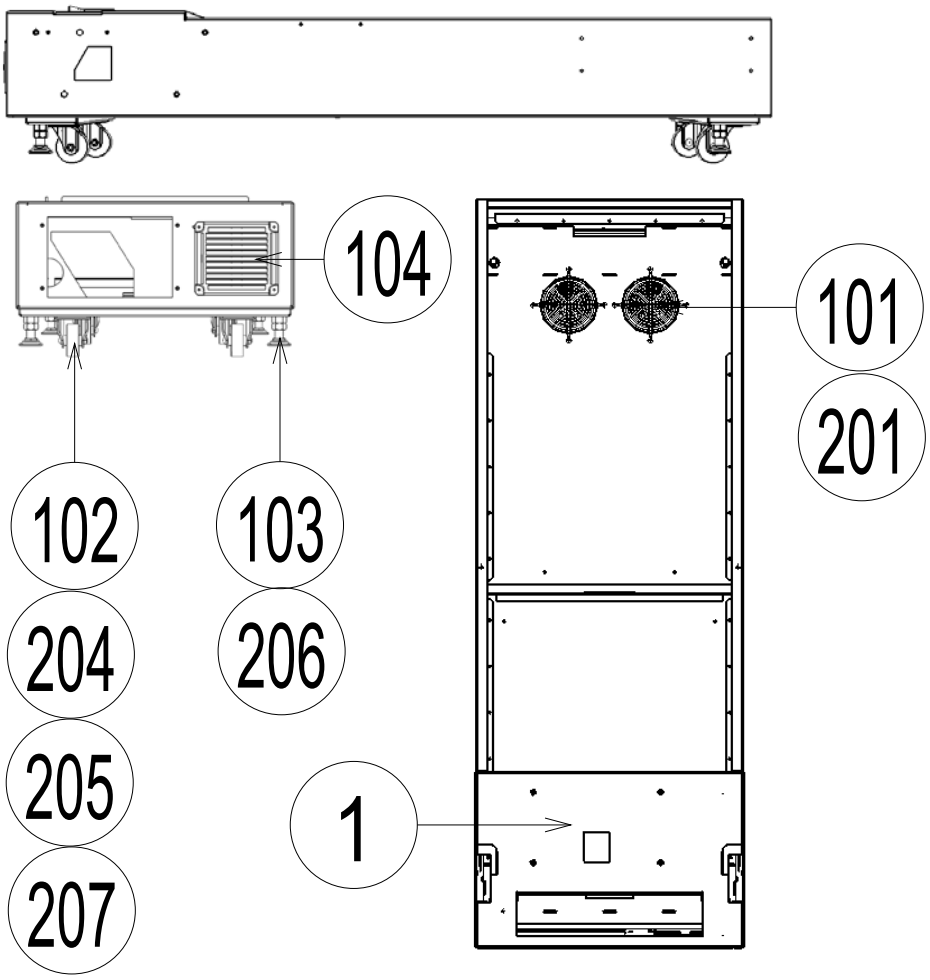
⑧ ASSY MAIN BASE (SSR-1500UK) (D-1/2)



⑧ ASSY MAIN BASE (SSR-1500UK) (D-2/2)

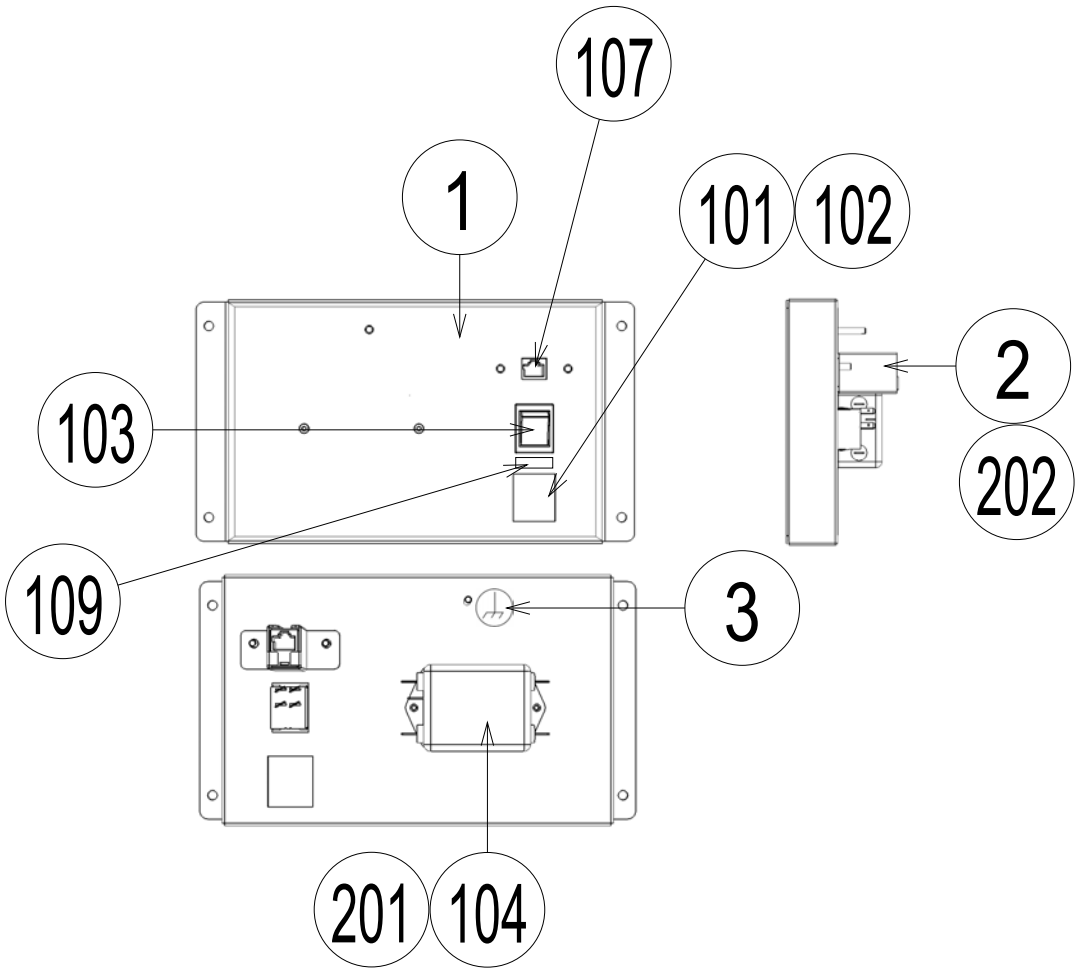
ITEM NO	PART NUMBER	DESCRIPTION	QTY
***1	SSR-1520UK	ASSY BASE BOX	1
***2	SSR-1540UK	AC UNIT	1
***3	SSR-1600UK	ASSY ADJUSTABLE SEAT	1
***4	SPG-2200-01-CN	ASSY ACCEL & BRAKE CHINA	1
***5	SSR-4500UK	ASSY MAIN BD	1
***6	SSR-4600UK	ASSY ELEC BD	1
***7	SSR-1535UK	ASSY BASE LID R	1
***8	RAL-2007X	RUBBER HOLDER R TWIN	1
***9	RAL-2008X	RUBBER HOLDER L TWIN	1
***11	SSR-1503UK	STICKER MAIN BASE L	1
***12	SSR-1504UK	STICKER MAIN BASE R	1
***13	SSR-1505UK	STICKER MAIN BASE REAR	1
***17	SPG-2224UK	PEDAL GASKET	1
***110	EP1392	A15P VGA GENDER CHANGE	1
***201	000-P00408-WB	M4X8 MSCR PAN W/FS BLK	4
***202	032-000425	M4X25 W/BLT PAS	4
***203	068-441616	M4 WSHR 16OD FLT PAS	4
***204	050-U00800	M8 NUT NYLOK PAS	6
***205	068-852216	M8 WSHR 22OD FLT PAS	6
***206	030-000825-SB	M8X25 BLT W/S BLK	8
***207	060-F00800-0B	M8 WSHR FORM A FLT BLK	8
***216	008-T00512-0B	M5X12 TMP PRF TH BLK	4
***215	000-T00412-0B	M4X12 MSCR TH BLK	8
***301	600-7269-0150UK	ASSY LAN CABLE 150CM	1
***302	RD-60015UK	WH AUDIO LED EXT	1
***303	RD-60023UK	WH PEDALS EXT	1
***304	SSR-60019UK	WH BASE BOX TO COCKPIT	1
***305	SSR-60009UK	WH ENCODER & MOTOR B	1
***307	600-7009-1800UK	ASSY RGB CA D-SUB 15	1
***308	RD-60037UK	WH AC BASE EXTN	1
***310	600-9010-44K	WH EARTH 10CM M4M4	1
***311	600-9020-44K	WH EARTH 20CM M4M4	1

⑨ ASSY BASE BOX (SSR-1520UK) (D-1/1)

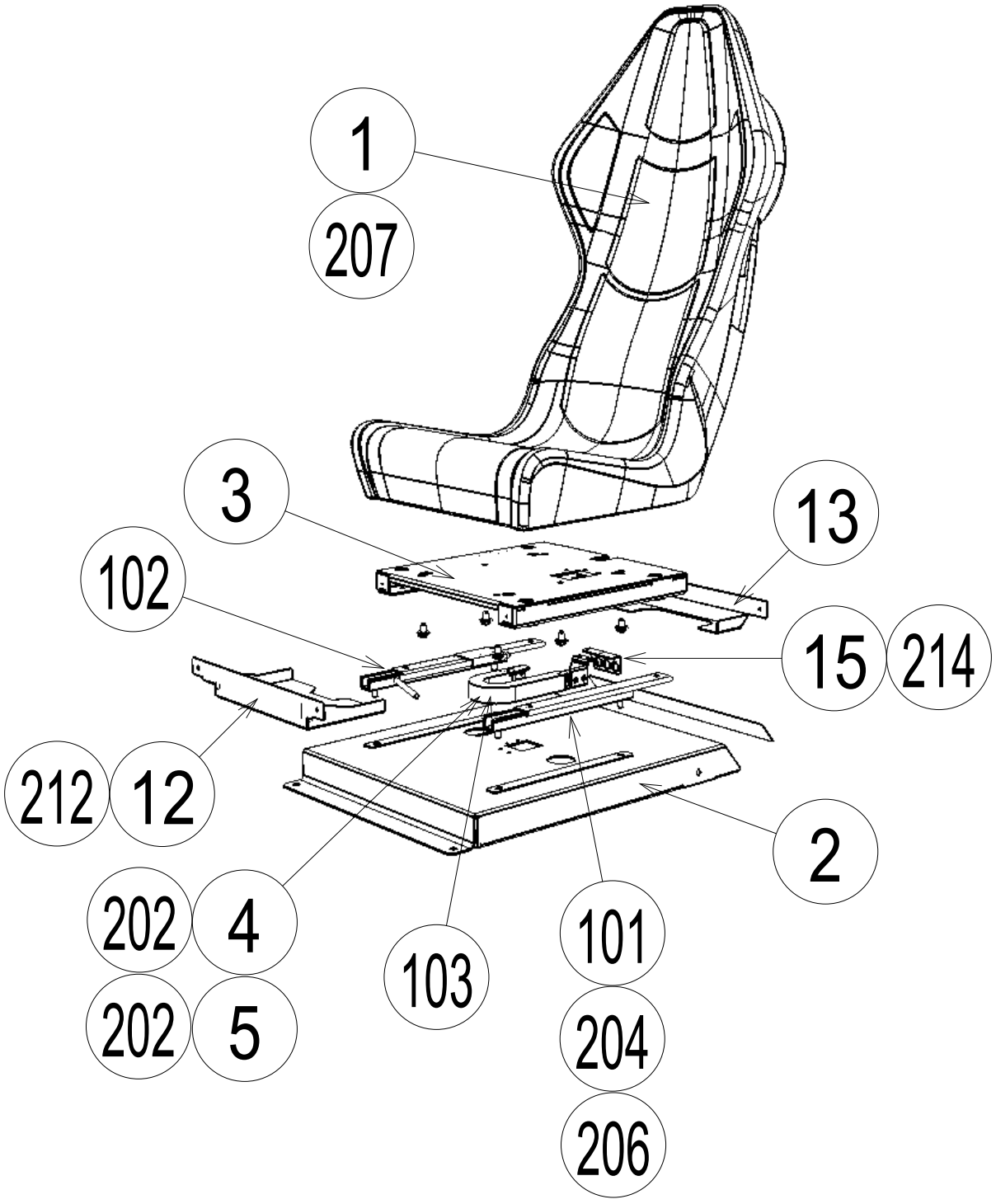


ITEM NO	PART NUMBER	DESCRIPTION	QTY
****1	SSR-1531UK	MAIN BASE BLANK	1
****101	FN1012	FAN GUARD METAL 120MM	2
****102	MA1007	CASTOR SWIVEL 63MM	4
****103	601-5699UK-01	LEG ADJ M16X100 1L/NUT	4
****104	253-5460-01	AIR VENT BLACK	1
****202	050-U00400	NUT M4 NYLOK PAS	4
****204	030-00816	M8X16 BLT PAS	16
****205	060-S00800	M8 WSHR SPR PAS	16
****206	000-T00416-0B	M4X16 MSCR TH BLK	4
****207	060-F00800-SB	M8 WSHR FORM A FLT BLK	16

⑩ ASSY AC UNIT (SSR-1540UK) (D-1/1)



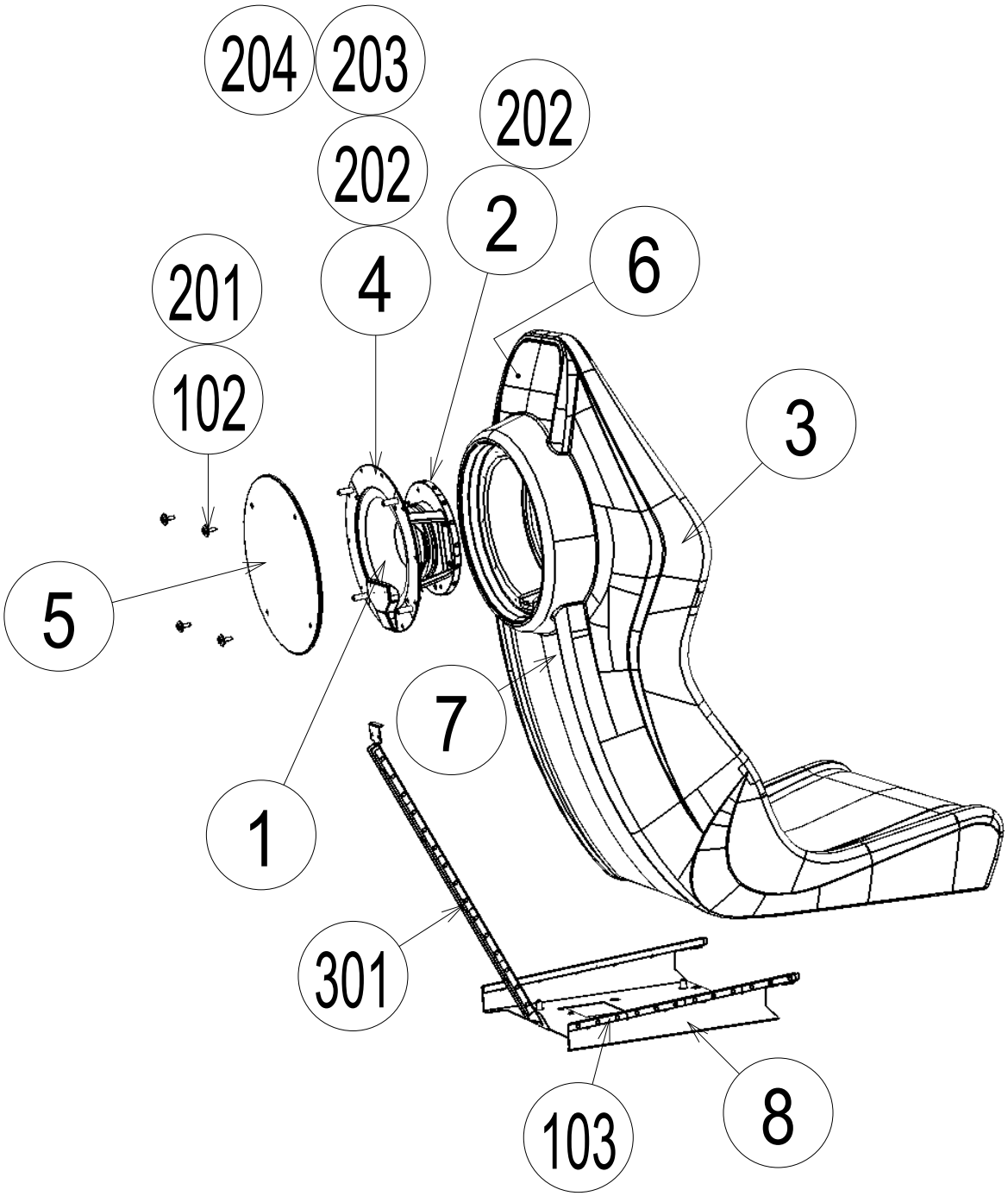
ITEM NO	PART NUMBER	DESCRIPTION	QTY
****1	RD-1541UK	AC BRKT	1
****2	TFF-0402UK	CONN COVER	1
****3	LB1096	STICKER PROTECTIVE EARTH	1
****101	EP1302	EUROSOCKET FUSED 10A 250VAC	1
****102	514-5078-5000	FUSE 5X20 CERAMIC SB 5000mA	2
****103	SW1109	SWITCH ROCKER 250V AC	1
****104	EP1419	FILTER SCHAFFNER 2030-16-06	1
****107	EP1391	COUPLER INLINE LAN RJ45	1
****108	310-5029-D508	HEAT SHRINK SLEEVING 50.8DIA	4
****109	LB1126-5-250	FUSE LABEL 5A 250V	1
****201	000-P00308-W	M3X8 MSCR PAN W/FS PAS	2
****202	050-F00400	M4 NUT FLG SER PAS	4
****301	TFF-60001UK	WH AC IN	1
****302	600-9020-44K	WH EARTH 200MM M4/M4	1


1
207
3
13
102
15
214
212
12
2
202
4
103
101
202
5
204
206

⑪ ASSY ADJ SEAT (SSR-1600UK) (D-2/2)

ITEM NO	PART NUMBER	DESCRIPTION	QTY
****1	SSR-1650UK	ASSY SEAT	1
****2	SSR-1601UK	SEAT BASE	1
****3	RD-1602UK	SEAT TRAY	1
****4	RD-1603UK	CABLE BEAR BRKT UPPER	1
****5	RD-1604UK	CABLE BEAR BRKT LOWER	1
****6	RD-1605UK	PROTECT RUBBER	2
****12	RD-1611UK	TRAY COVER FRONT	1
****13	RD-1612UK	TRAY COVER REAR	1
****15	SSR-1614UK	BKT PNL MOUNT	1
****101	601-9059-91	SEAT RAIL L	1
****102	601-9060-91	SEAT RAIL R	1
****103	601-6981-009	CABLE BEAR L=009	1
****202	000-P00408-W	M4X8 MSCR PAN W/FS PAS	4
****203	000-P00512-W	M5X12 MSCR PAN W/FS PAS	4
****204	050-U00800	M8 NUT NYLOK PAS	8
****206	068-852216	W8 WSHR 22OD FLT PAS	14
****207	030-000820-S	M8X20 BLT W/S PAS	6
****212	000-T00408-0B	M4X8 MSCR TH BLK	10
****214	000-P00412-W	M4X12 MSCR PAN W/FS	2
****301	RD-60025UK	WH CABLE BEAR	1

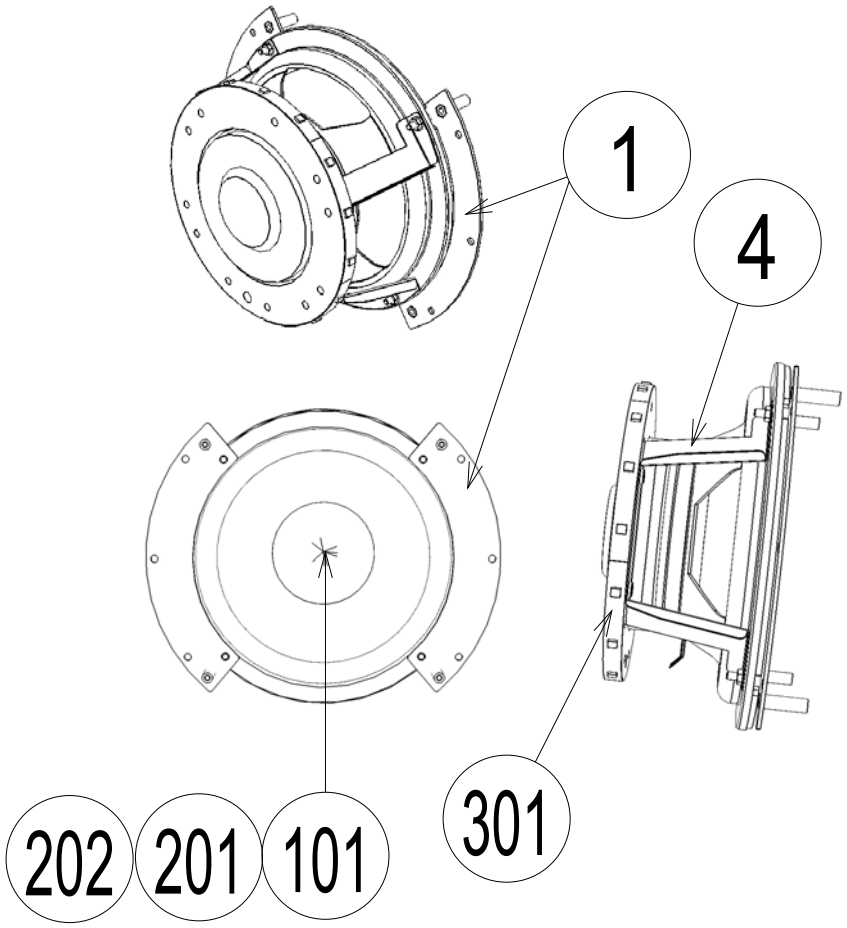
⑫ ASSY SEAT LIT (SSR-1650UK) (D-1/2)



⑫ ASSY SEAT LIT (SSR-1650UK) (D-2/2)

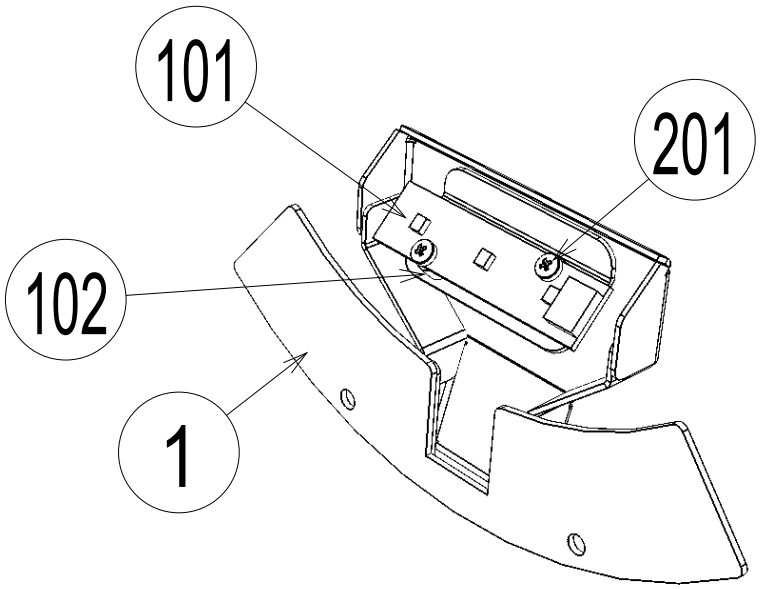
ITEM NO	PART NUMBER	DESCRIPTION	QTY
*****1	SSR-1670UK	ASSY WOOFER	1
*****2	SSR-1680UK	ASSY WOOFER LED	1
*****3	SSR-1651-AUK	SEAT SSR BLANK	1
*****4	SSR-1652UK	WOOFER BKT B	1
*****5	SSR-1654UK	WOOFER DESIGN PLATE	1
*****6	SSR-1651-BUK	STICKER SEAT UPPER	1
*****7	SSR-1651-CUK	STICKER SEAT LOWER	1
*****8	SSR-1655UK	BRKT BASE LWR SEAT LIGHT	
*****102	280-6686-01UK	4.5X16X4 SP WSHR	4
*****103	SSR-60022-040UK	WH LED ASSY 400	2
*****106	280-0003UK	M5 SHLDR WSHR INSUL NYLON	4
*****201	FAS-290042	M4X12 HEX SKT LH CAP SCR STN	4
*****202	012-P00416-FZ	N8X5/8" S/TAP FLG OZ	12
*****203	030-00816-S	M8X16 BLT W/S PAS	4
*****204	068-852216	M8 WSHR 22OD FLT PAS	4
*****301	SSR-60001UK	WH ASSY SEAT SPINE	1
*****302	SSR-60023UK	WH SEAT MAIN	1
*****304	600-9020-44K	WH EARTH 20CM M4M4	1

⑬ ASSY WOOFER (SSR-1670UK) (D-1/1)



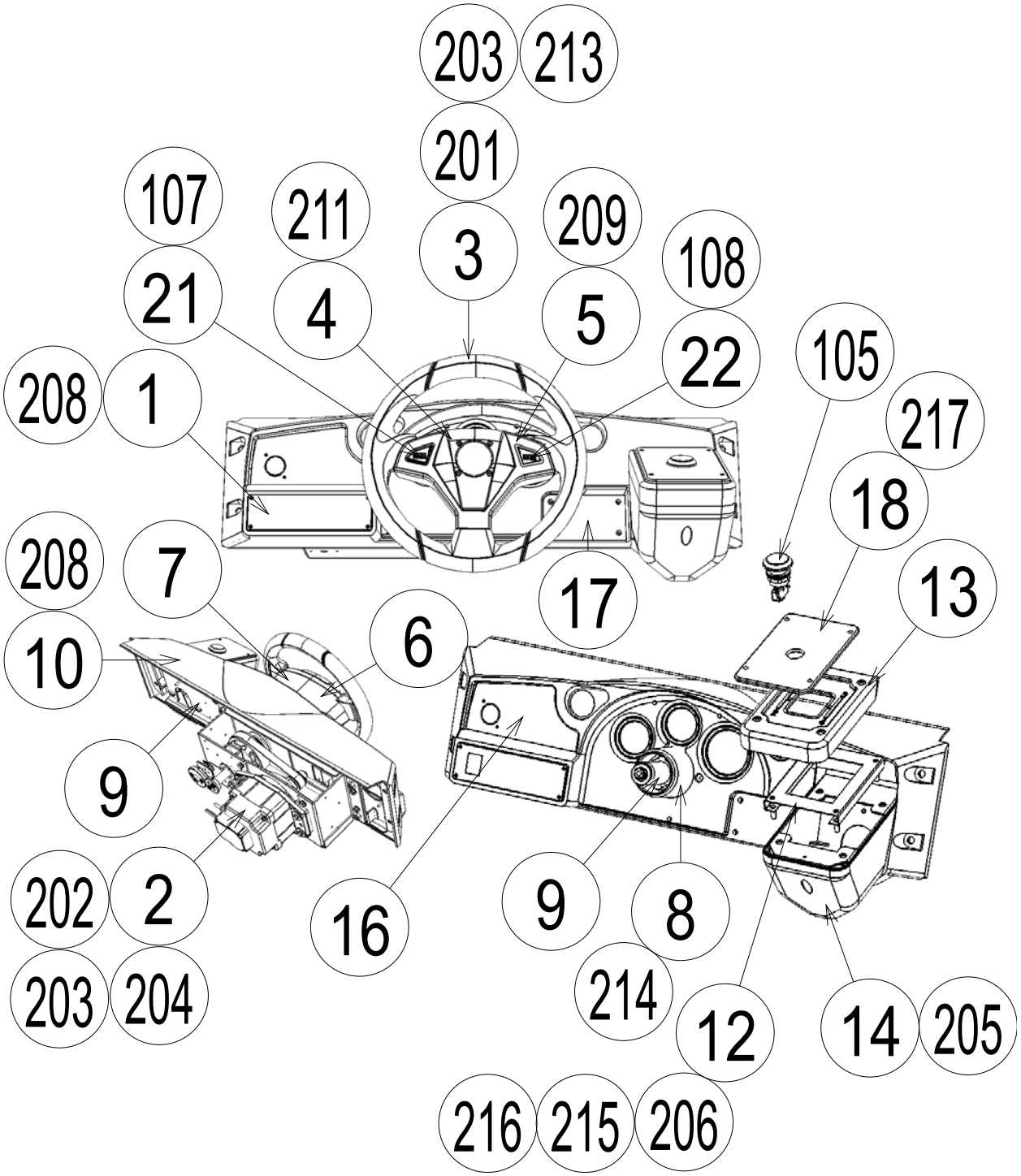
ITEM NO	PART NUMBER	DESCRIPTION	QTY
******1	SSR-1671UK	WOOFER BRKT A	2
******4	SSR-1674UK	BRKT RING SUPPORT	2
*****101	130-5280	WOOFER 4OHM 80W SILVER RNE	1
*****201	060-F00400	M4 WSHR FORM A FLT PAS	4
*****202	050-U00400	M4 NUT NYLOK PAS	4
*****301	SSR-6002UK	WH ASSY WOOFER RING	1

⑭ ASSY WOOFER LED (SSR-1680UK) (D-1/1)



ITEM NO	PART NUMBER	DESCRIPTION	QTY
******1	SSR-1681UK	WOOFER BRKT C	1
******101	838-14973-01	LED BD RGB 3X1BLOCK	1
******102	280-L00605-OS	STANDOFF 6.35OD 3.56ID 4.76L	2
******201	000-P00312-PN	M3X12 MSCR PAN NYLON NAT	2

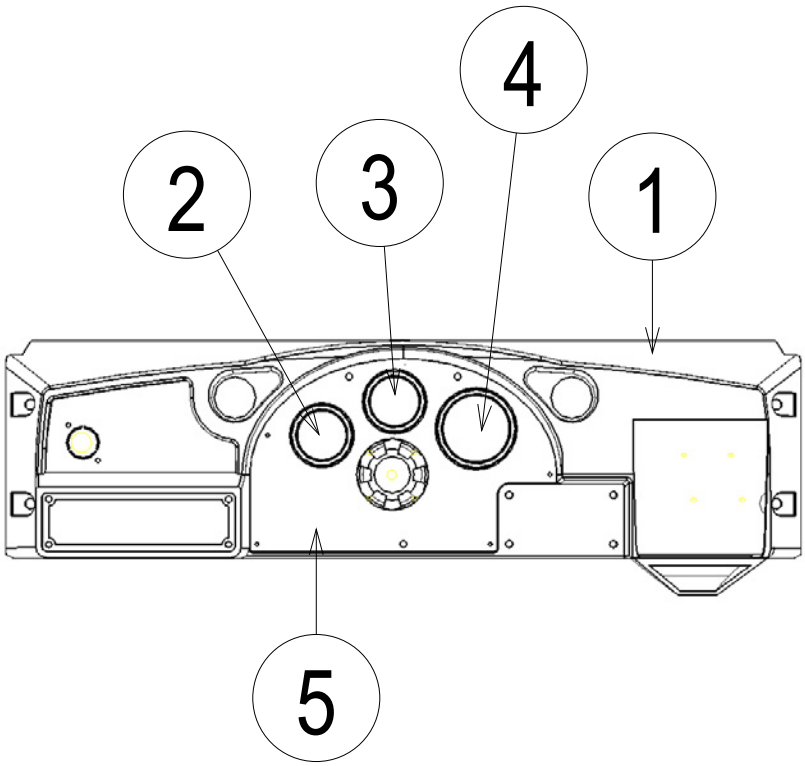
⑮ ASSY CONTROL PANEL (SSR-2000UK) (D-1/2)



⑮ ASSY CONTROL PANEL (SSR-2000UK) (D-2/2)

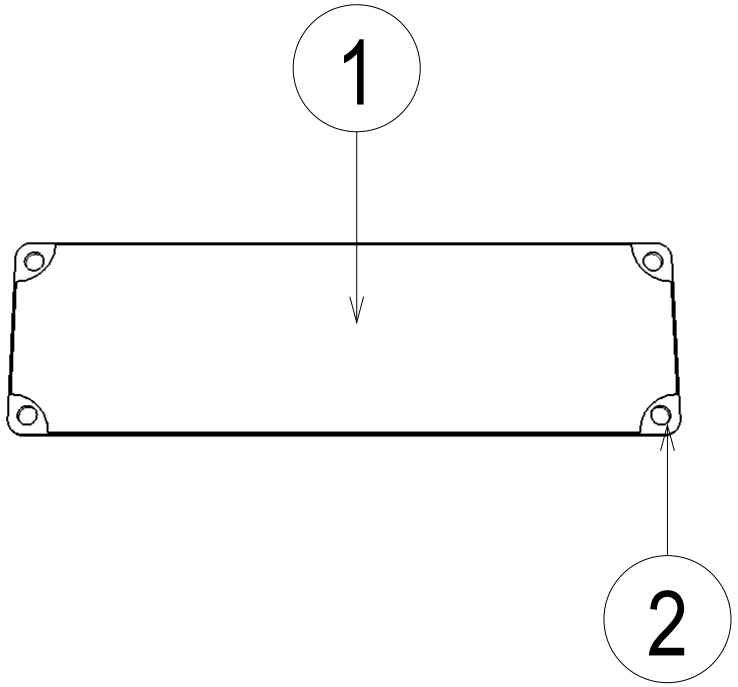
ITEM NO	PART NUMBER	DESCRIPTION	QTY
****1	SSR-2100UK	ASSY SW PLATE W/O BUTTON	1
****2	RTV-2500	ASSY HANDLE MECH	1
****3	RNE-2001	STEERING WHEEL	1
****4	RNE-2002	FRONT CENTER COVER	1
****5	RNE-2003	FRONT COVER	1
****6	RNE-2004	REAR COVER L	1
****7	RNE-2005	REAR COVER R	1
****8	RNE-2006	HANDLE COLLAR CAP	1
****9	RNE-2007UK	CONTROL PANEL BKT	1
****10	SSR-2001UK	CTRL PANEL COVER	1
****11	RNE-2009	HANDLE COLLAR	1
****12	SSR-2013UK	BASE SHIFTER COVER A	1
****13	DYN-1222	SHIFT COVER A	1
****14	DYN-1223X	SHIFT COVER B	1
****16	SSR-0002UK	STICKER SUB INSTRUCT	1
****17	DYN-0010UK	DENOMI PLATE	1
****18	SSR-2010UK	PATE START	1
****21	SSR-2015UK	LEGEND BTN L	1
****22	SSR-2016UK	LEGEND BTN R	1
****102	280-A01200-A	ROUTER TWIST D12 ADH	4
****103	280-A02000-A	ROUTER TWIST D20 ADH	1
****105	509-6006-B	BTN CHROME BLUE HALO	2
****107	509-6218-01	SW PB 1M W/LED RGB BOOST L	1
****108	509-6219-01	SW PB 1M W/LED RGB BOOST R	2
****201	020-000820	M8X20 BLT PAS	1
****202	060-F00800	M8 WSHR FORM A FLT PAS	4
****203	060-S00800	M8 WSHR SPR PAS	5
****204	050-U00800	M8 NUT NYLOK PAS	4
****205	000-P00412-W	M4X12 MSCR PAN W/FS PAS	3
****206	030-000820-S	M8X20 BLT W/S PAS	4
****208	008-T00416-0B	M4X16 TMP PRF TH BLK	7
****209	000-P00308-W	M3X8 MSCR PAN W/FS PAS	3
****210	000-P00310-W	M3X10 MSCR PAN W/FS PAS	6
****211	FAS-290082	M3X16 SKT CAP BLK	4
****213	060-F01600	M16 WSHR FORM A FLT PAS	2
****214	0000-T00416-0B	M4X16 MSCR TH BLK	6
****215	050-F00600	M6 NUT FLG SER PAS	4
****216	060-F00600	M6 WSHR FORM A FLT PAS	4
****217	008-T00420-0B	M4X20 TMP PRF TH BLK	4
****304	RNE-60104	WH STEERING WHEEL EXT	1
****305	RNE-60105	WH STEERING BUTTON	1
****312	600-9120-44K	WH EARTH 120CM M4M4	1

⑯ CONTROL PANEL COVER (SSR-2001UK) (D-1/1)



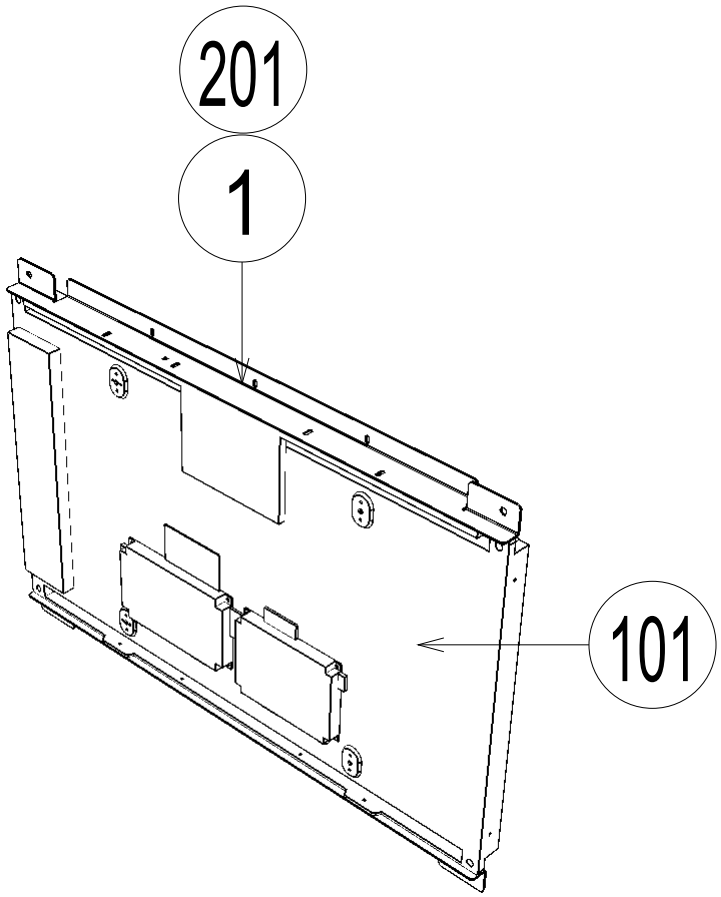
ITEM NO	PART NUMBER	DESCRIPTION	QTY
****1	RNE-2008-A	CONTROL PANEL COVER BL	1
****2	SSR-2001-CUK	DESIGN PLATE L	1
****3	SSR-2001-DUK	DESIGN PLATE M	1
****4	SSR-2001-EUK	DESIGN PLATE R	1
****5	SSR-2001-BUK	METER PANEL	1

⑰ ASSY SW PLATE W/O BUTTON (SSR-2100UK) (D-1/1)



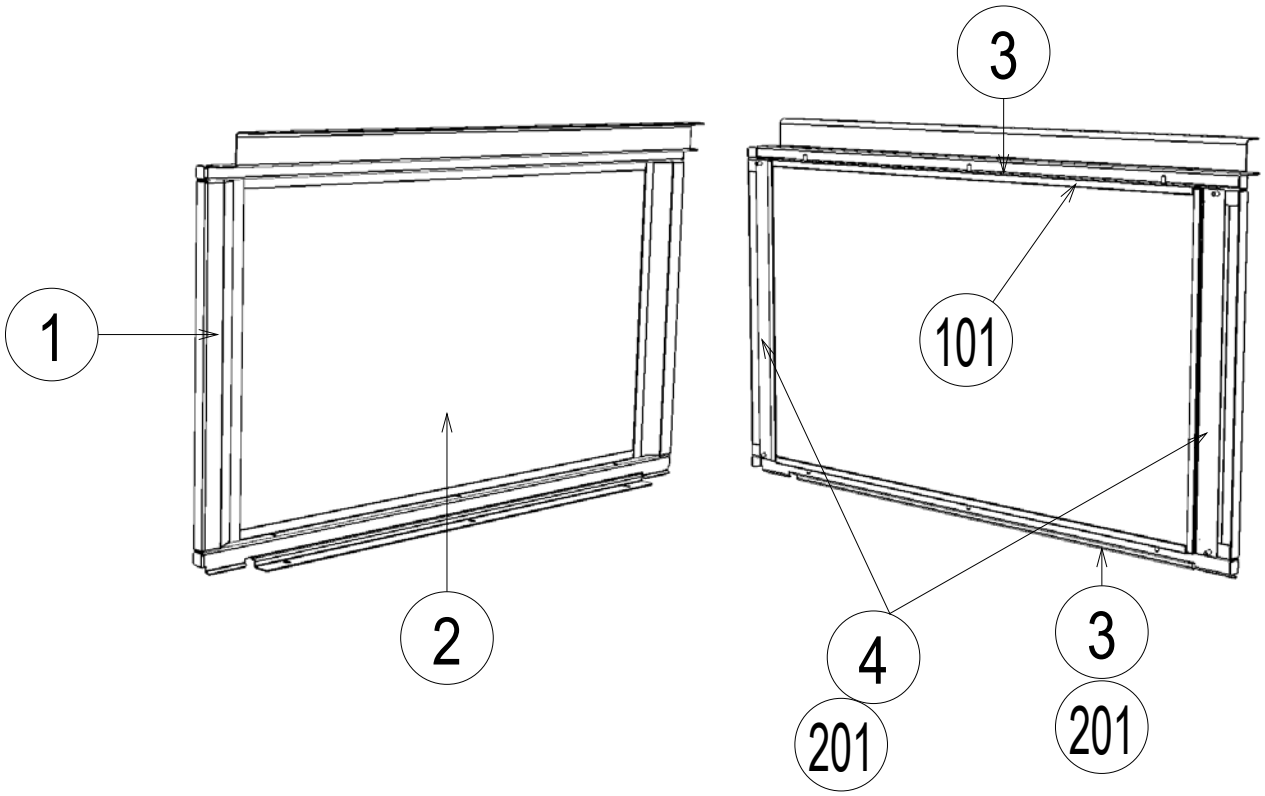
ITEM NO	PART NUMBER	DESCRIPTION	QTY
****1	SSR-2101UK	STICKER W/O BUTTON	1
****2	SSR-2102UK	PLATE BUTTON BLANK	1

⑱ ASSY LCD MONITOR (RD-1280UK) (D-1/1)



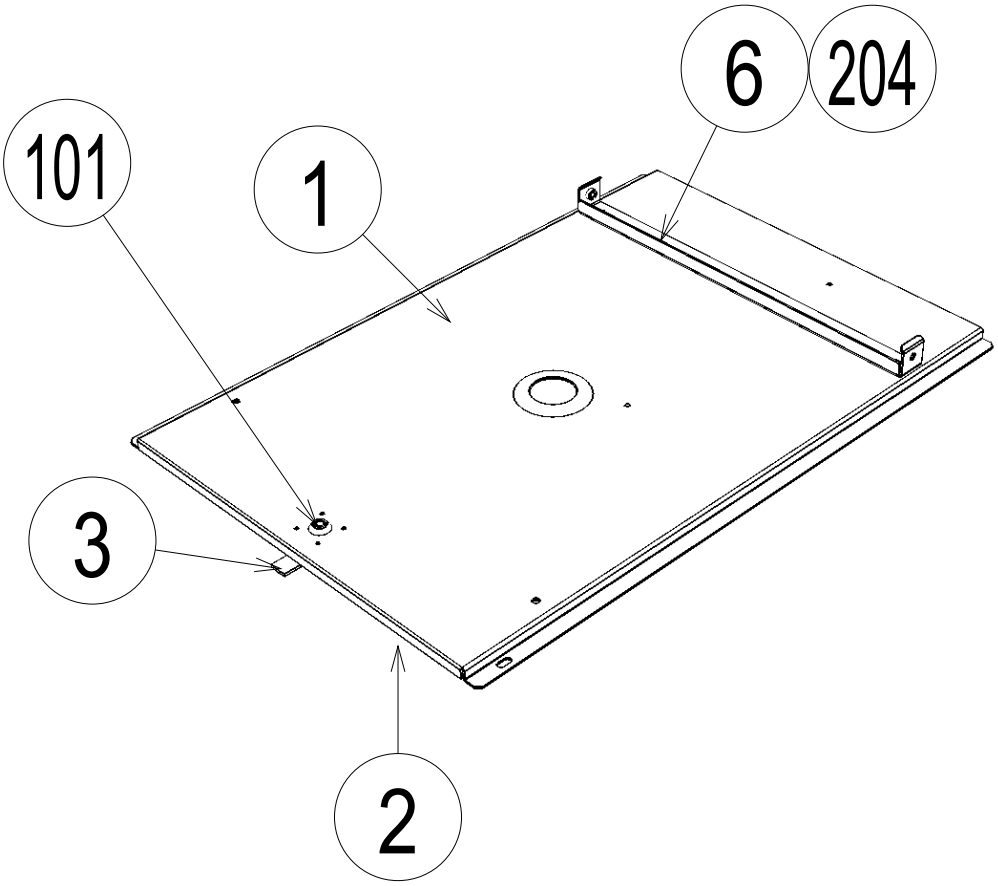
ITEM NO	PART NUMBER	DESCRIPTION	QTY
****1	RD-1281UK	LCD BRKT	2
****101	200-6032-01DT	DISPLAY 32" LCD LTI320AA02	1
****201	000-P00416-W	M4X16 MSCR PAN W/FS PAS	6
****301	RD-60030UK	WH LCD PSU	1

⑲ ASSY MONITOR MASK (RD-1300UK) (D-1/1)



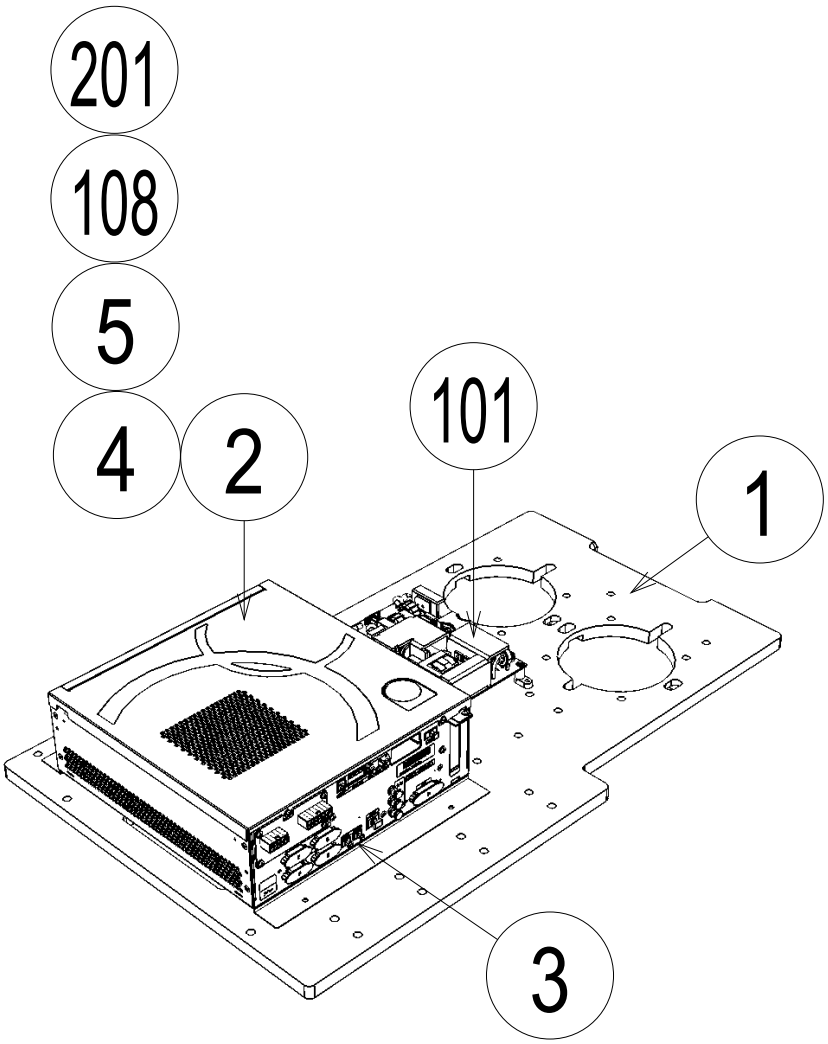
ITEM NO	PART NUMBER	DESCRIPTION	QTY
****1	RD-1301UK	MONITOR MASK	1
****2	RD-1308UK	PROTECTIVE GLASS LCD 32V	1
****3	RD-1302UK	GLASS HOLDER UL	2
****4	RD-1303UK	GLASS HOLDER LR	2
****101	OS1230	FOAM STRIP 2mm X 10mm	4.6
****201	050-F00400	M4 NUT FLG SER PAS	10

⑳ ASSY BASE LID R (SSR-1535UK) (D-1/1)



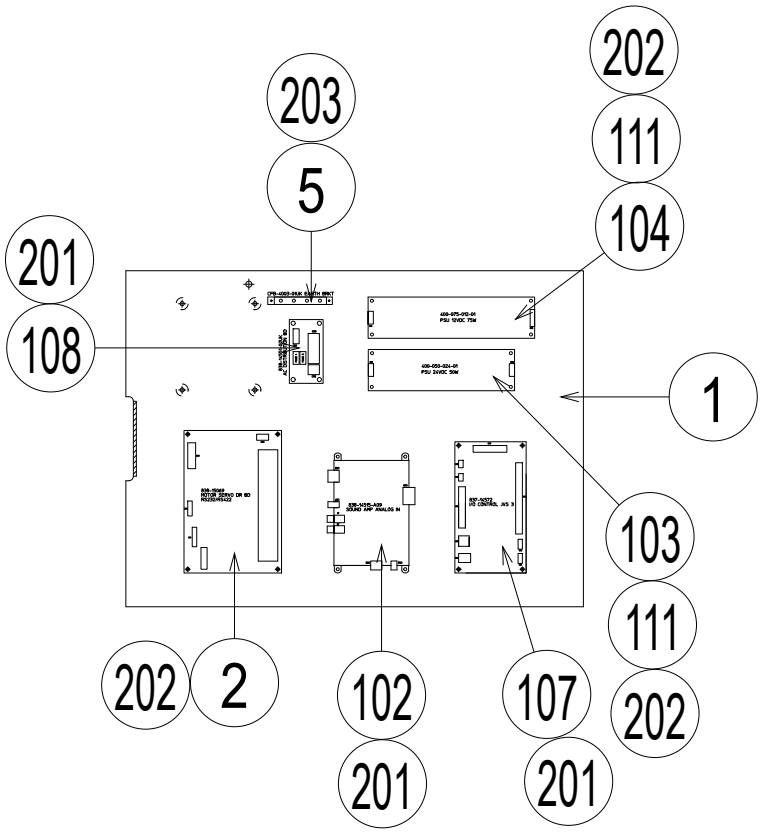
ITEM NO	PART NUMBER	DESCRIPTION	QTY
****1	SSR-1538UK	BASE LID R	1
****2	DUT-1511-CUK	GASKET STRIP	1
****3	DUT-1511-DUK	LOCK TONGUE DUT	1
****6	RD-1536UK	SEAT HOLDER	1
****101	220-5575UK	LOCK	1
****104	280-A00748-PM	ROUTER TWIST D7.SO4.8 PANEL M	4
****201	050-F00400	M4 NUT FLG SER PAS	1
****204	030-000816-S	M8X16 BLT W/S PAS	2

㉑ ASSY MAIN BOARD (RD-4500UK) (D-1/1)



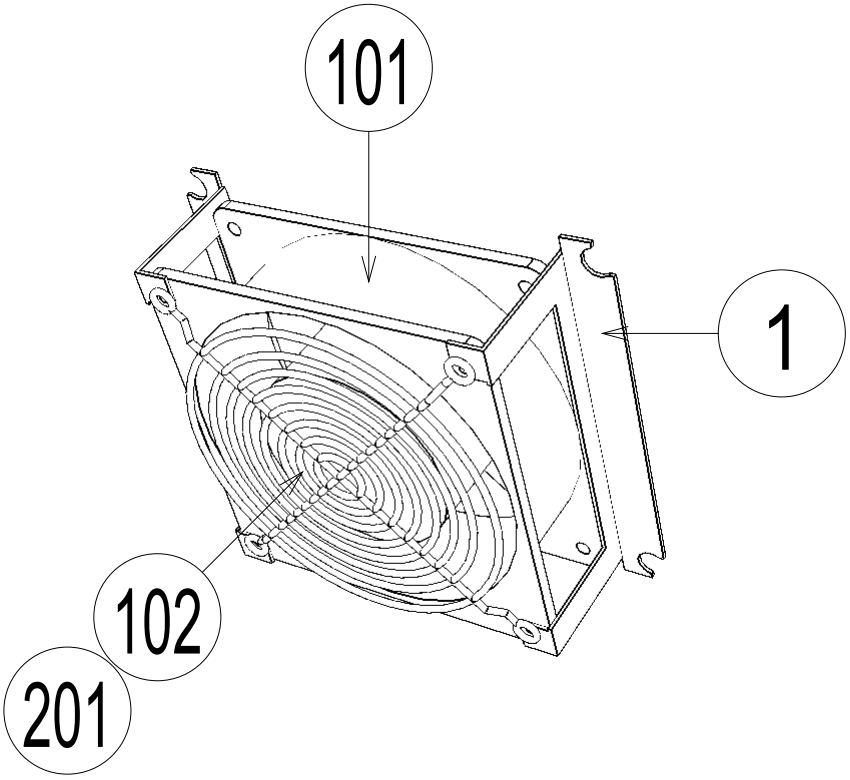
ITEM NO	PART NUMBER	DESCRIPTION	QTY
****1	SSR-4501UK	WOODEN BASE MAIN BD	1
****2	847-0001D-02	ASSY CASE WDE W 1GB EXP	1
****3	253-5644-021BG	KEY CHIP RGW SSAR	1
****4	610-0816-0029	DVD-SOFT KIT SSAR GL	1
****5	LB1111	STICKER PLEASE RECYCLE	1
****101	400-5483	SW REGU EADP-130CF A DELTA	1
****102	280-A01264-WX	ROUTER TWIST D12 S06.4 WOOD X	5
****103	280-A02064-WX	ROUTER TWIST D20 S06.4 WOOD X	5
****108	LB1101	STICKER WARNING BATTERY	1
****201	000-P00416-W	M4X16 MSCR PAN W/FS PAS	4
			4
****301	SSR-60005UK	WH DC RINGWIDE	1
****302	SSR-60016UK	WH AC GAMEBOARD	1
****303	SSR-60006UK	WH 5V I/O	1
****304	SSR-60007UK	WH COMS A	1

(22) ASSY ELEC BOARD (RD-4600UK) (D-1/1)



ITEM NO	PART NUMBER	DESCRIPTION	QTY
****1	SSR-4601UK	WOODEN BASE ELEC BD	1
****2	838-15069	MOTOR DRIVE BD RS232/422	1
****5	CFB-4003-01UK	EARTH PLATE	1
****102	838-14515-A09	SOUND AMP ANALOG IN	1
****103	400-050-024-01	PSU 24VDC 50W MW LPS-50-24	1
****104	400-075-012-01	PSU 12V DC 75W MW LPS-75-12	1
****107	837-14572	I/O BOARD 3 FOR JVS	1
****108	838-14551-02UK	AC DISTRIBUTION BD	1
****111	OS1011	PCB FEET RICHCO LCBS-L-5-01	20
****112	280-A01264-WX	ROUTER TWIST D12 SO6.4 WOOD X	14
****113	280-A02064-WX	ROUTER TWIST D20 SO6.4 WOOD X	10
****201	012-P00325	N4X1" S/TAP PAN PAS	12
****202	012-P03506-F	N6X1/4" S/TAP FLG PAS	16
****203	012-P03512-F	N6X1/2" S/TAP FLG PAS	2
****301	RD-60001UK	WH AC TO DIST	1
****302	SSR-60002UK	WH AC DISTRIBUTION	1
****303	SSR-60003UK	WH DC I/O	1
****304	SSR-60007UK	WH COMMS A	1
****305	SSR-60008UK	WH ENCODER & MOTER A	1
****306	SSR-60004UK	WH DC 12V OUT	1
****307	SSR-60010UK	WH SPEAKER A	1
****308	SSR-60018UK	WH P PORT A	1
****309	SSR-60013UK	WH I/O	1
****310	600-7141-100UK	CABEL JVS TYPE A-B 100CM	1
****311	600-9050-44K	WH EARTH 50CM M4M4	1
****312	600-7919-200UK	CA ST JACK TO PHONO	1

㉓ ASSY 240V FAN (ST-1340UK) (D-1/1)



ITEM NO	PART NUMBER	DESCRIPTION	QTY
****1	105-5340-01	FAN BRKT LONG	2
****101	260-0024-01UK	FAN AC AXIAL DP200A	1
****102	FN1012	FAN GUARD METAL 120MM (FG-12)	1
****201	000-P00312-W	M3X12 MSCR PAN W/FS PAS	4
****301	ST-60026UK	WH FAN	1

20 WIRE COLOUR CODE TABLE

⚠ WARNING

The DC power wire color for this product is different from previous SEGA titles. Working from the previous wire colors will create a high risk of fire.

The color codes for the wires used in the diagrams in the following chapter are as follows.

A	PINK
B	SKY BLUE
C	BROWN
D	PURPLE
E	LIGHT GREEN

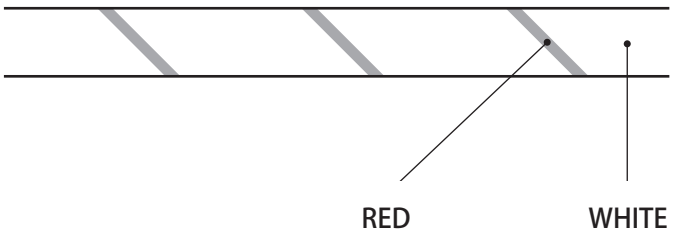
Wires other than those of any of the above 5 single colors will be displayed by 2 alphanumeric characters.

1	RED
2	BLUE
3	YELLOW
4	GREEN
5	WHITE
7	ORANGE
8	BLACK
9	GRAY

If the right-hand side numeral of the code is 0, then the wire will be of a single color shown by the left-hand side numeral (see the above).

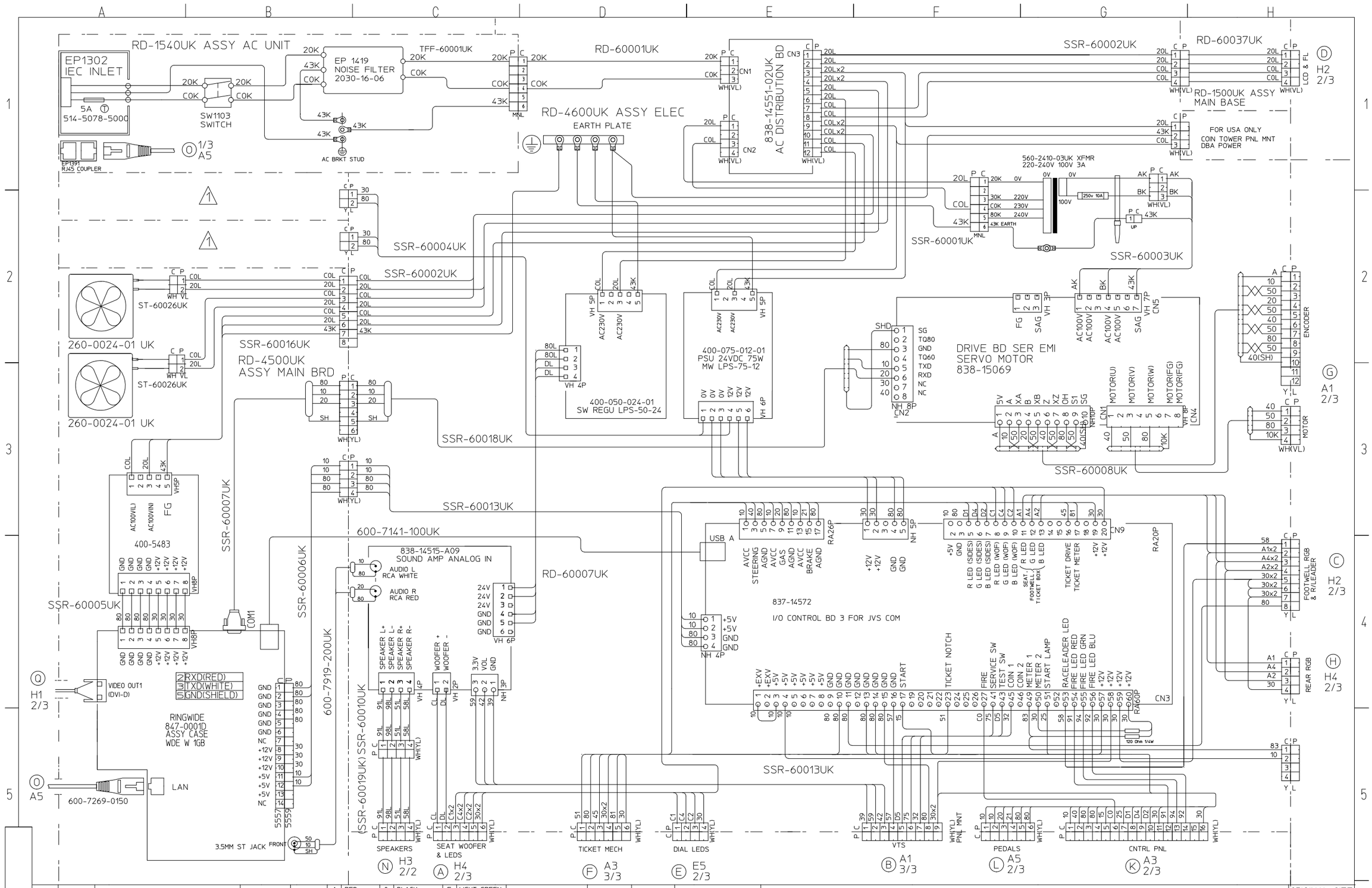
Note 1: If the right-hand side numeral is not 0, that particular wire has a spiral color code. The left-hand side character shows the base color and the right-hand side one, the spiral color.

<Example> 51·····WHITE/RED



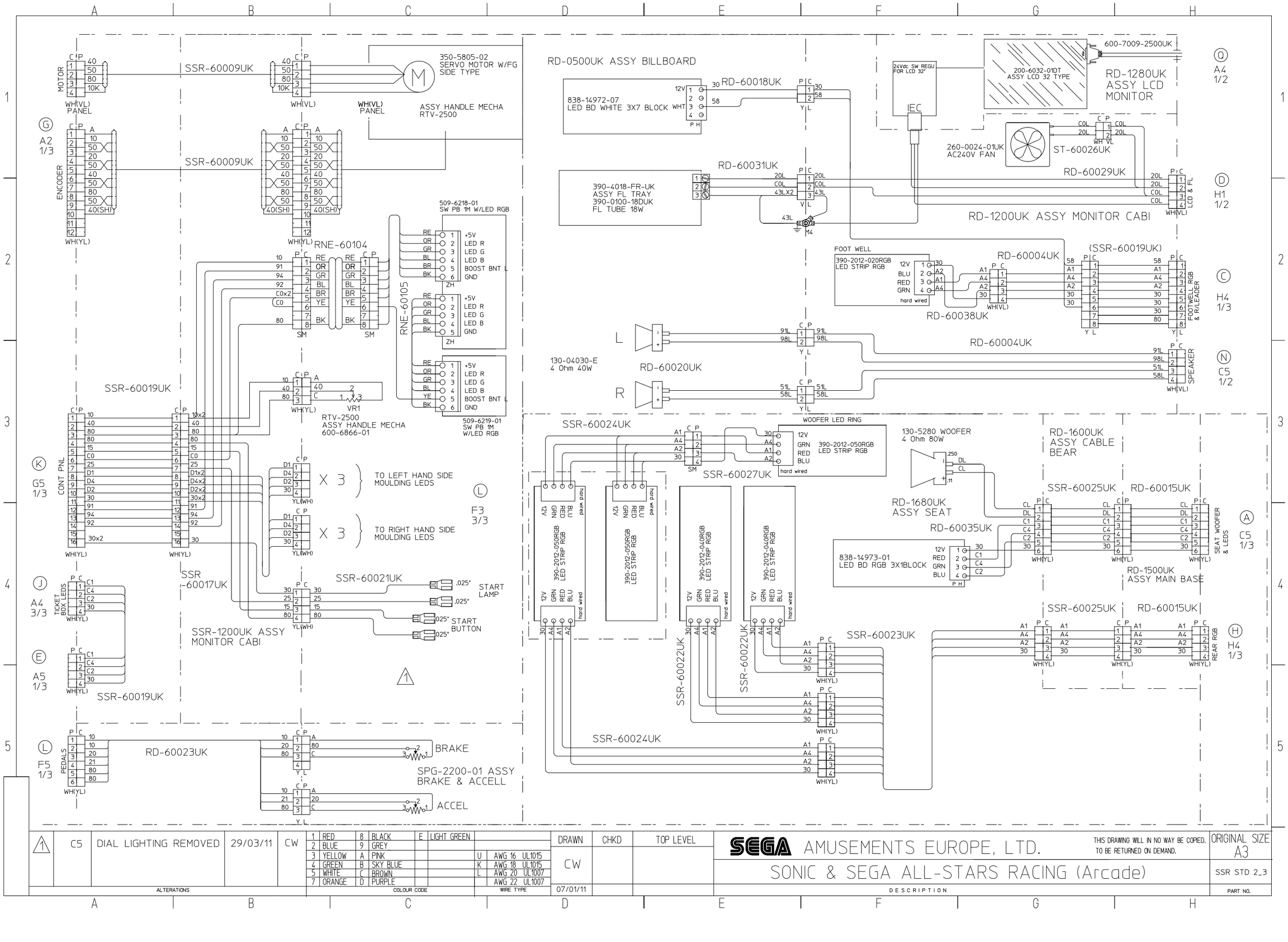
Note 2: The character following the wire color code indicates the size of the wire.

U :	AWG16
K :	AWG18
L :	AWG20
None :	AWG22



1	A2	CCFL UNITS REMOVED	29/03/11	CW	1	RED	8	BLACK	E	LIGHT GREEN				DRAWN	CHKD	TOP LEVEL	SEGA AMUSEMENTS EUROPE, LTD.	THIS DRAWING WILL IN NO WAY BE COPIED. TO BE RETURNED ON DEMAND.	ORIGINAL SIZE A3
					2	BLUE	9	GREY						CW			SONIC & SEGA ALL-STARS RACING (Arcade)		SSR STD 1_3
					3	YELLOW	A	PINK			U	AWG 16	UL1015						
					4	GREEN	B	SKY BLUE			K	AWG 18	UL1015						
					5	WHITE	C	BROWN			L	AWG 20	UL1007						
					7	ORANGE	D	PURPLE				AWG 22	UL1007	07/01/11					
		ALTERATIONS			COLOUR CODE						WIRE TYPE						DESCRIPTION		PART NO.

(D-2/3)


RD-0500UK ASSY BILLBOARD
838-14972-07
LED BD WHITE 3X7 BLOCK WHT
RD-60018UK
600-7009-2500UK
200-6032-01DT
ASSY LCD 32 TYPE
RD-1280UK
ASSY LCD
MONITOR
24Vdc SW.REGU
FOR LCD 32"
IEC
260-0024-01UK
AC240V FAN
ST-60026UK
RD-60029UK
390-4018-FR-UK
ASSY FL TRAY
390-0100-18DUK
FL TUBE 18W
RD-60031UK
RD-1200UK ASSY MONITOR CABI
FOOT WELL
390-2012-020RGB
LED STRIP RGB
hard wired
RD-60004UK
RD-60038UK
(SSR-60019UK)
FOOTWELL RGB
& R/LEADER
130-04030-E
4 Ohm 40W
RD-60020UK
L
R
RD-60004UK
SPEAKER
WOOFER LED RING
SSR-60024UK
SSR-60027UK
390-2012-050RGB
LED STRIP RGB
130-5280 WOOFER
4 Ohm 80W
RD-1600UK
ASSY CABLE
BEAR
RD-1680UK
ASSY SEAT
RD-60035UK
838-14973-01
LED BD RGB 3X1BLOCK
SSR-60025UK
RD-60015UK
SEAT WOOFER
& LEDS
RD-1500UK
ASSY MAIN BASE
SSR-60022UK
SSR-60023UK
SSR-60024UK
REAR RGB
SSR-60009UK
SSR-60019UK
SSR-60017UK
SSR-60021UK
SSR-1200UK ASSY
MONITOR CABI
RNE-60104
RNE-60105
509-6218-01
SW PB 1M W/LED RGB
509-6219-01
SW PB 1M
W/LED RGB
350-5805-02
SERVO MOTOR W/FG
SIDE TYPE
ASSY HANDLE MECHA
RTV-2500
RTV-2500
ASSY HANDLE MECHA
600-6866-01
VR1
TO LEFT HAND SIDE
MOULDING LEDS
TO RIGHT HAND SIDE
MOULDING LEDS
START
LAMP
START
BUTTON
BRAKE
ACCEL
SPG-2200-01 ASSY
BRAKE & ACCELL
RD-60023UK
MOTOR
ENCODER
CONT PNL
TICKET
BOX LEDS
PEDALS
WH(YL)
PANEL
WH(VL)
YL(WH)
Y L
P H
SM
ZH
hard wired
+5V
LED R
LED G
LED B
BOOST BNT L
GND
12V
GRN
RED
BLU
BLK
GR
BL
BR
YE
OR
RE
LCD & FL
COL
20L
43L
43LX2
91L
98L
51L
58L
CL
DL
C1
C4
C2
A1
A2
A4
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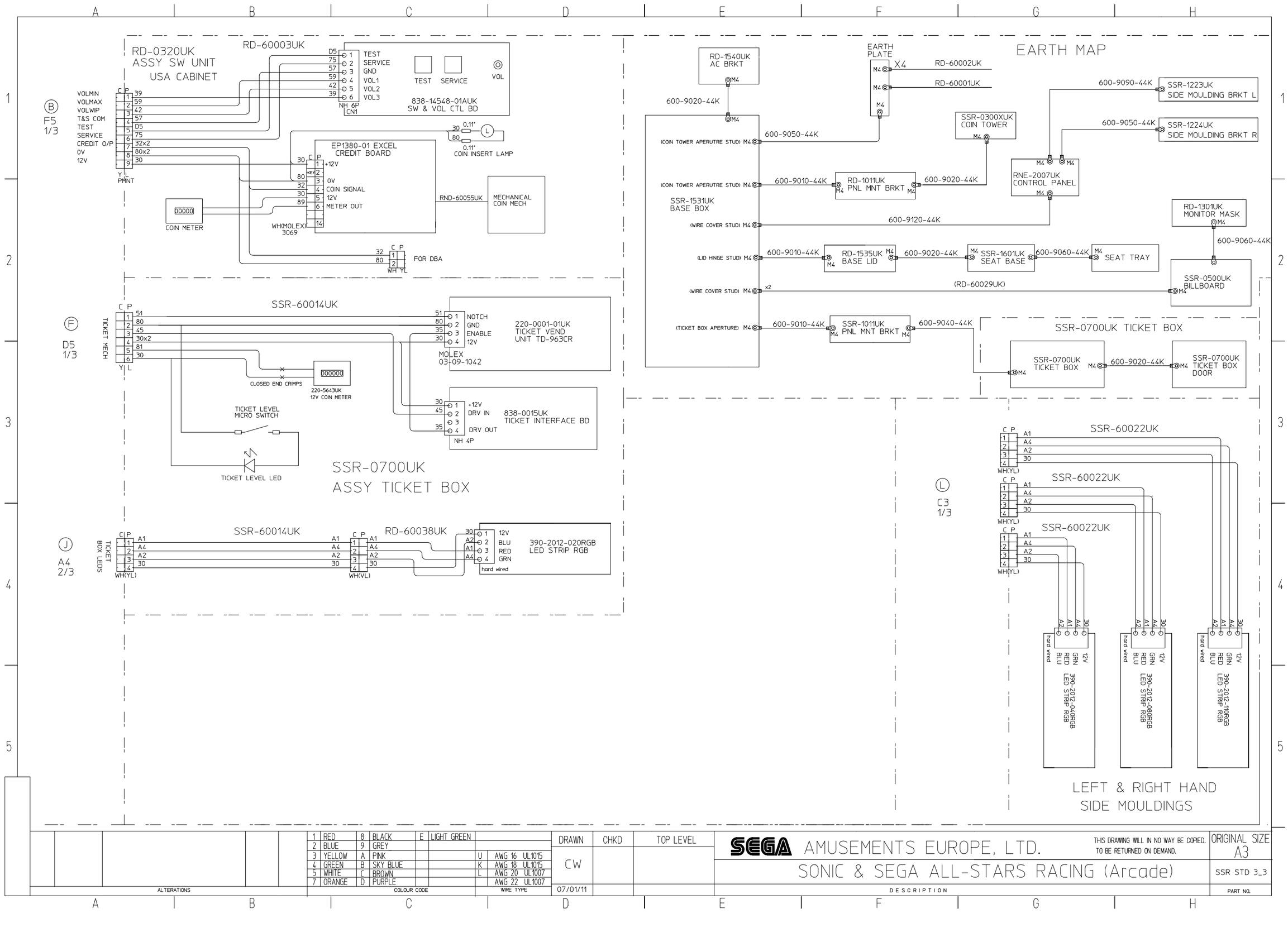
(D-3/3)



1	RED	8	BLACK	E	LIGHT GREEN			DRAWN	CHKD	TOP LEVEL	ORIGINAL SIZE
2	BLUE	9	GREY								A3
3	YELLOW	A	PINK			U	AWG 16 UL1015	CW			
4	GREEN	B	SKY BLUE			K	AWG 18 UL1015				SSR STD 3_3
5	WHITE	C	BROWN			L	AWG 20 UL1007				
7	ORANGE	D	PURPLE				AWG 22 UL1007	07/01/11			
ALTERATIONS		COLOUR CODE				WIRE TYPE		DESCRIPTION			PART NO.

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